



National Energy
Board

Office national
de l'énergie

Reasons for Decision

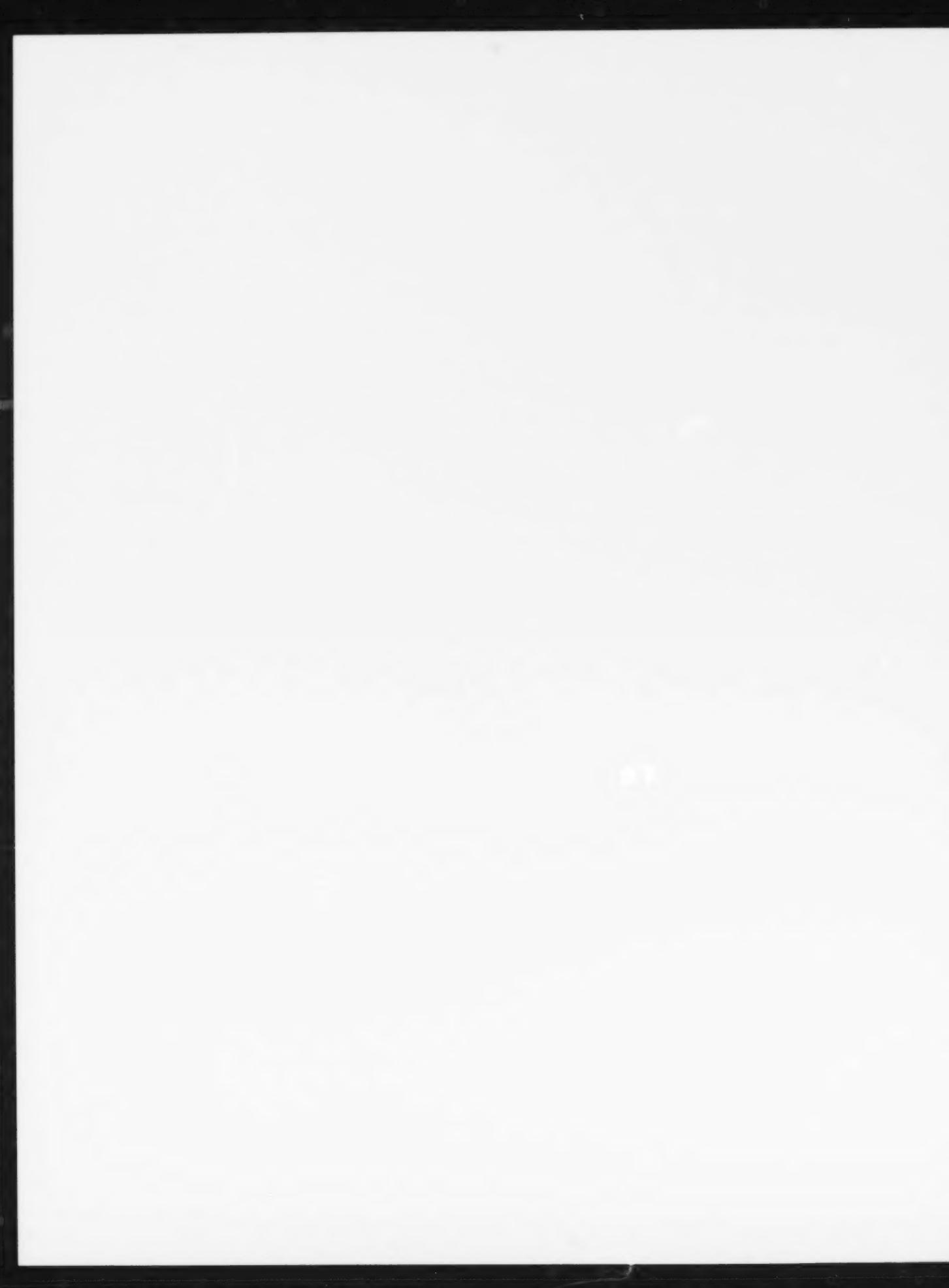
NOVA Gas Transmission Ltd.

GH-1-2009

March 2010

Facilities Application

Canada



National Energy Board

Reasons for Decision

In the Matter of

NOVA Gas Transmission Ltd.

Application dated 30 April 2009 for the
Groundbirch Pipeline Project

GH-1-2009

March 2010

Permission to Reproduce

Materials may be reproduced for personal, educational and/or non-profit activities, in part or in whole and by any means, without charge or further permission from the National Energy Board, provided that due diligence is exercised in ensuring the accuracy of the information reproduced; that the National Energy Board is identified as the source institution; and that the reproduction is not represented as an official version of the information reproduced, nor as having been made in affiliation with, or with the endorsement of the National Energy Board.

For permission to reproduce the information in this publication for commercial redistribution, please
e-mail: info@neb-one.gc.ca

Autorisation de reproduction

Le contenu de cette publication peut être reproduit à des fins personnelles, éducatives et/ou sans but lucratif, en tout ou en partie et par quelque moyen que ce soit, sans frais et sans autre permission de l'Office national de l'énergie, pourvu qu'une diligence raisonnable soit exercée afin d'assurer l'exactitude de l'information reproduite, que l'Office national de l'énergie soit mentionné comme organisme source et que la reproduction ne soit présentée ni comme une version officielle ni comme une copie ayant été faite en collaboration avec l'Office national de l'énergie ou avec son consentement.

Pour obtenir l'autorisation de reproduire l'information contenue dans cette publication à des fins commerciales, faire parvenir un courriel à : info@neb-one.gc.ca

© Her Majesty the Queen in Right of Canada 2010 as
represented by the National Energy Board

Cat No. NE22-1/2010-2E
ISBN 978-1-100-14767-3

This report is published separately in both official
languages. This publication is available upon request
in multiple formats.

Copies are available on request from:

The Publications Office
National Energy Board
444 Seventh Avenue S.W.
Calgary, Alberta, T2P 0X8
E-Mail: publications@neb-one.gc.ca
Fax: 403-292-5576
Phone: 403-299-3562
1-800-899-1265

For pick-up at the NEB office:
Library
Ground Floor

Printed in Canada

© Sa Majesté la Reine du Chef du Canada 2010
représentée par l'Office national de l'énergie

N° de cat. NE22-1/2010-2F
ISBN 978-1-100-93615-4

Ce rapport est publié séparément dans les deux
langues officielles. On peut obtenir cette publication
sur supports multiples, sur demande.

Demandes d'exemplaires :

Bureau des publications
Office national de l'énergie
444, Septième Avenue S.-O.
Calgary (Alberta) T2P 0X8
Courrier électronique : publications@neb-one.gc.ca
Fax : 403-292-5576
Téléphone : 403-299-3562
1-800-899-1265

**Des exemplaires sont également disponibles à la
bibliothèque de l'Office
(rez-de-chaussée)**

Imprimé au Canada

Table of Contents

List of Figures.....	ii
List of Tables	ii
List of Appendices.....	ii
Glossary of Terms and Abbreviations	iii
Recital and Appearances.....	vi
1. Introduction.....	1
1.1 The Application	1
1.2 GH-1-2009 Hearing Process	1
1.3 Reasons for Decision GH-1-2009	3
2. Economic Feasibility.....	5
2.1 Need for Facilities.....	5
2.1.1 Natural Gas Supply	5
2.1.2 Natural Gas Markets	6
2.2 Transportation and Throughput	7
2.3 Ability to Finance	7
3. Natural Gas Liquid (NGL) Matters	9
4. Facilities	11
4.1 Description of Facilities.....	11
4.2 Design, Construction, and Operation.....	11
4.3 Post-Construction Integrity Validation.....	15
4.3.1 Alternative Integrity Validation.....	15
5. Public Consultation.....	21
5.1 NGTL's Public Consultation Program.....	21
6. Aboriginal Matters.....	24
6.1 Enhanced Aboriginal Engagement Process for the Groundbirch Project.....	24
6.1.1 Aboriginal Engagement and Consultation	25
6.1.2 Potential Impacts of the Project	29
7. Description of Land Matters.....	35
7.1 Routing.....	35
7.1.1 General Route Description.....	35
7.1.2 General Route Selection	35
7.2 Land Requirements	40
7.3 Land Acquisition.....	41
8. Environment and Socio-Economic Matters.....	44
8.1 Environmental Screening Process.....	44
8.2 Cumulative Effects Assessment.....	44
8.3 Socio-Economic Matters considered under the NEB Act.....	46

9.	Toll Principles and Methodology	49
10.	Conclusion on Public Interest and Public Convenience and Necessity.....	50
11.	Disposition	51

List of Figures

1-1	Groundbirch Pipeline Project – Proposed General Route Map	4
1-2	Productive capacity and open season contract volume growth comparison	6

List of Tables

2-1	Undiscovered Natural Gas Potential.....	5
-----	---	---

List of Appendices

I	List of Issues	52
II	Certificate Conditions	53
III	NEB Ruling on the Motion by NGTL to File Certain Information in Confidence.....	60
IV	NEB Ruling on the NGTL Request to vary NEB Order MO-14-2009.....	64
V	Environmental Screening Report.....	68
VI	Guidance for Exemption Application	116

Glossary of Terms and Abbreviations

$10^6 \text{ m}^3/\text{d}$	Million cubic metres per day
$10^9 \text{ m}^3/\text{d}$	Billion cubic metres per day
AIV	Alternative Integrity Validation
Alberta System	The TransCanada Alberta System is an integrated natural gas pipeline system comprised of about 23,700 kilometres of pipeline and associated compression and other facilities located within Alberta owned by NOVA Gas Transmission Ltd.
Applicant, NGTL or the Company	NOVA Gas Transmission Ltd.
Application	Application to the Board, pursuant to section 52 of the National Energy Board Act for a Certificate of Public Convenience and Necessity for the Groundbirch Pipeline Project
Bay Tree Route	Proposed rerouted portion of the Groundbirch Pipeline to follow an existing Right of Way north of Bay Tree, Alberta
BC	British Columbia
BC MOE	BC Ministry of the Environment
Bcf/d	Billion cubic feet per day
Board or NEB	National Energy Board
BP	BP Canada Energy Company
CEA Act	Canadian Environmental Assessment Act
Certificate	Certificate of Public Convenience and Necessity issued under section 52 of the NEB Act authorizing the construction and operation of a pipeline
CSA	Canadian Standards Association
CSA Z662-07	Canadian Standards Association Z662-07, Oil and Gas Pipeline Systems
DESR	Draft Environmental Screening Report
DFN	Duncan's First Nation
DFO	Fisheries and Oceans Canada
EA	environmental assessment
EAE	Enhanced Aboriginal Engagement

EC	Environment Canada
EPP	environmental protection plan
ESR	Environmental Screening Report
Ft	Feet
Full path ex-Alberta rate	The rate that is charged to transport natural gas from a receipt point to a delivery point that will take the gas beyond Alberta's boundaries.
HDD	horizontal directional drilling
Highway 49 Route	Proposed rerouted portion of the Groundbirch Pipeline along Highway 49 in Alberta
HLFN	Horse Lake First Nation
IMP	Integrity management program
IPA	Integrated Public Awareness
IRC	Industrial Relations Corporation
km	kilometre(s)
KP	kilometre post
kPa	kiloPascals
LMCI	Land Matters Consultation Initiative
m^3/d	cubic metres per day
mm	millimetre(s)
MMcf/d	million cubic feet per day
Montney Formation	A stratigraphic unit of Mid Triassic age of the Western Canadian Sedimentary Basin in Alberta and British Columbia
MPMO	Major Projects Management Office
NEB Act	National Energy Board Act
NGL	Natural Gas Liquid
NIT	NOVA Inventory Transfer commercial hub
NOVA Chemicals	NOVA Chemicals Corporation
NPS	nominal pipe size
NPS 36	Nominal pipeline size 36 inches

OCC	TransCanada Operations Control Centre
OPR-99	Onshore Pipeline Regulations, 1999
PEA	Project and Expenditure Agreements
Pipeline	Groundbirch Pipeline
PPBoR	plan, profile, and book of reference
Project	Groundbirch Pipeline Project
QMS	Quality Management System
Reasons	Reasons for Decision
RoW	Right of Way
RSA	Regional Study Area
SCADA	Supervisory Control and Data Acquisition
SFN	Saulteau First Nation
SMYS	Specified minimum yield strength
SPLA	South Peace Landowners Association
Straddle plant	A facility that processes natural gas and extracts a portion of the heavier components (i.e., ethane, propane, butane and natural gas liquids) from the gas prior to returning the gas to the pipeline.
Talisman	Talisman Energy Inc.
Tcf	Trillion cubic feet
TEK	Traditional Ecological Knowledge
TLU	Traditional Land Use
TransCanada	TransCanada PipeLines Limited
TTFP	Tolls, Tariff, Facilities and Procedures Committee
TWS	Temporary workspace
US	United States

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act* and the *Regulations* made thereunder;

IN THE MATTER OF an application by NOVA Gas Transmission Ltd. (NGTL) dated 30 April 2009 for a Certificate of Public Convenience and Necessity under section 52 of the *National Energy Board Act* to construct and operate an extension of the TransCanada Alberta System to connect supply located in British Columbia to existing infrastructure filed with the National Energy Board under file OF-Fac-Gas-N081-2009-01 01; and

IN THE MATTER OF National Energy Board Hearing Order GH-1-2009 dated 16 June 2009;

HEARD in Dawson Creek, British Columbia on 17, 18 and 19 November 2009;

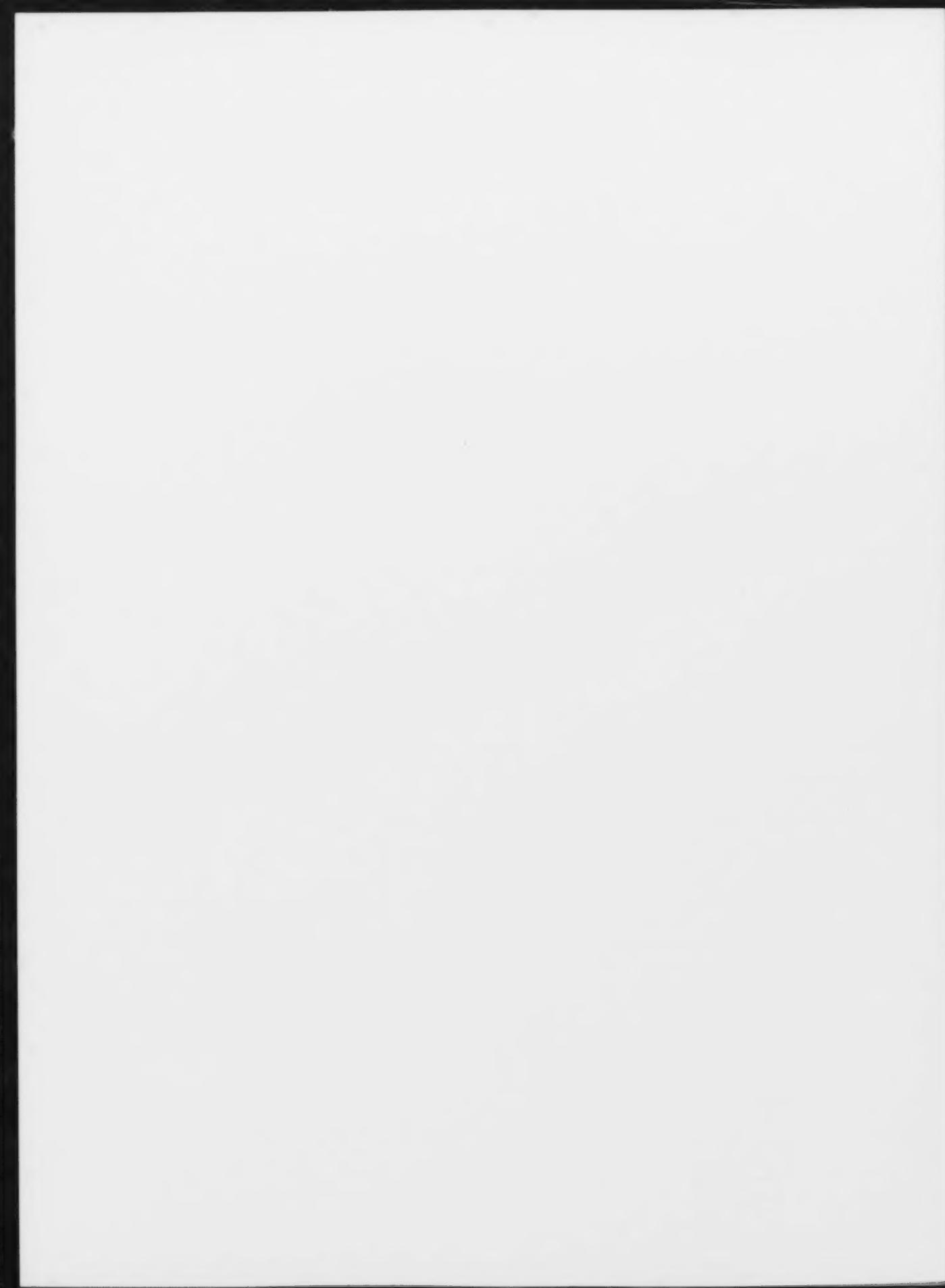
BEFORE:

R. R. George Presiding Member
G. A. Habib Member
R. D. Verrette Member

Appearances	Participants	Witnesses
S. Denstedt M. Keen J. Forrest	NOVA Gas Transmission Ltd.	H. Bishop S. Clark R. Kendel S. Mann T. Moss D. Murray A. Parisé D. Schultz D. Taylor
D. Core	South Peace Landowners Association	D. Core D. Dechief K. Piper O. Steward B. Veiner
J. D. Brett T. Angel	BP Canada Energy Company	
J.R. Cusano	NOVA Chemicals Corporation	
G. Giesbrecht	Talisman Energy Inc.	
Alex Ross H. Gitersos	National Energy Board	

Oral Statements

K. Rich	Duncan's First Nation	S. Beaulieu T. Green D. Mooswah K. Rich
A. Horseman	Horse Lake First Nation	S. Belcourt A. Horseman D. Horseman J. Horseman



Chapter 1

Introduction

1.1 The Application

On 30 April 2009, NOVA Gas Transmission Ltd. (NGTL, the Applicant or the Company) applied to the National Energy Board (Board or NEB) pursuant to section 52 of the *National Energy Board Act* (NEB Act) for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the Groundbirch Pipeline Project (Project). NGTL also requested that the Board grant such further and other relief as may be requested or as the Board may consider appropriate.

The Project is a proposed extension of the existing TransCanada Alberta System (Alberta System) to connect sweet natural gas supply mainly from the Montney Formation located in northeast British Columbia (BC). The Groundbirch Pipeline (Pipeline) would extend from a new interconnection on the Gordondale Lateral near the downstream side of the existing Gordondale Meter Station on the Alberta System, approximately 11 kilometres (km) east of Bay Tree, Alberta to a meter station in the Groundbirch area in northeast BC, approximately 37 km northwest of Dawson Creek.

The Pipeline will consist of approximately 77 km of 914 millimetres (mm) outside diameter pipe (nominal pipe size 36 inches (NPS 36)) and related facilities, including meter stations and valve sites. The Pipeline is designed to transport about 46.9 million cubic metres per day ($10^6\text{m}^3/\text{d}$) (1.66 billion cubic feet per day (Bcf/d)) of natural gas.

Figure 1-1 provides an overview of the main components for the Project.

1.2 GH-1-2009 Hearing Process

On 16 June 2009, the Board issued Hearing Order GH-1-2009 which established the process for the Board's consideration of the Application. By Board letter dated 22 July 2009, the Board amended the deadline for the filing of an application to intervene for those who became aware of the GH-1-2009 proceeding by Notice of Public Hearing published in *L'Express du Pacifique* or the *Windspeaker*. The Hearing Order included the List of Issues which the Board proposed for consideration during its assessment of the Application. The Board issued a revised List of Issues on 22 July 2009. The revised List of Issues is included in Appendix I of these Reasons for Decision (Reasons).

On 16 November 2009, the Board hosted an information session in Dawson Creek, BC. The purpose of the information session was to provide specific information on the Board's oral public hearing process and to answer any questions parties might have regarding that process.

The oral portion of the public hearing started on 17 November 2009 and ended 19 November 2009 in Dawson Creek, BC. The hearing record remained open pending receipt of the response to an undertaking, which was filed with the Board at the end of November 2009.

Since the Project requires a Certificate under section 52 of the NEB Act, the requirement for an environmental assessment (EA) under the Canadian Environmental Assessment Act (CEA Act) was triggered. Given that the Project would not require more than 75 km of new Right of Way (RoW), as defined in the CEA Act Comprehensive Study List Regulations, the Project was subject to a screening level of EA under the CEA Act.

On 13 January 2010, a Draft Environmental Screening Report (DESR) was released by the Board for public comment. The final Environmental Screening Report (ESR) incorporates the comments received on the DESR, provides the views of the Board on environmental and socio-economic matters covered under the CEA Act and includes the Board's CEA Act determination. The final ESR is attached as Appendix V.

In considering the Project, the Board used a life cycle approach. All issues and concerns before the Board were considered in the context of the Project (i.e., design, planning, construction, operation, decommissioning and abandonment). The Board also considered its various regulatory roles, such as application assessment and post-decision condition compliance, with respect to each stage in the Project's life cycle.

In 2008, the federal government established the Major Projects Management Office (MPMO) to improve the performance of the Canadian regulatory system for major natural resource projects. An important part of the MPMO's work is to provide overarching project management and accountability for resource projects such as this Project. With respect to Aboriginal Crown consultation for the Project, the MPMO has indicated that the government will rely on the Board's process, to the extent possible, to discharge any Crown duty to consult Aboriginal groups.

In the Public Interest

In reviewing an application for a Certificate, the Board must consider whether the applied-for facilities are in the overall Canadian public interest. In doing so, the Board must, after carefully weighing all of the evidence in the proceeding, exercise its discretion in balancing the interests of a diverse public.

The Board has described the public interest in the following terms:

The public interest is inclusive of all Canadians and refers to a balance of economic, environmental and social interests that change as society's values and preferences evolve over time. As a regulator, the Board must estimate the overall public good a project may create against its potential negative aspects, weigh its various impacts, and make a decision¹.

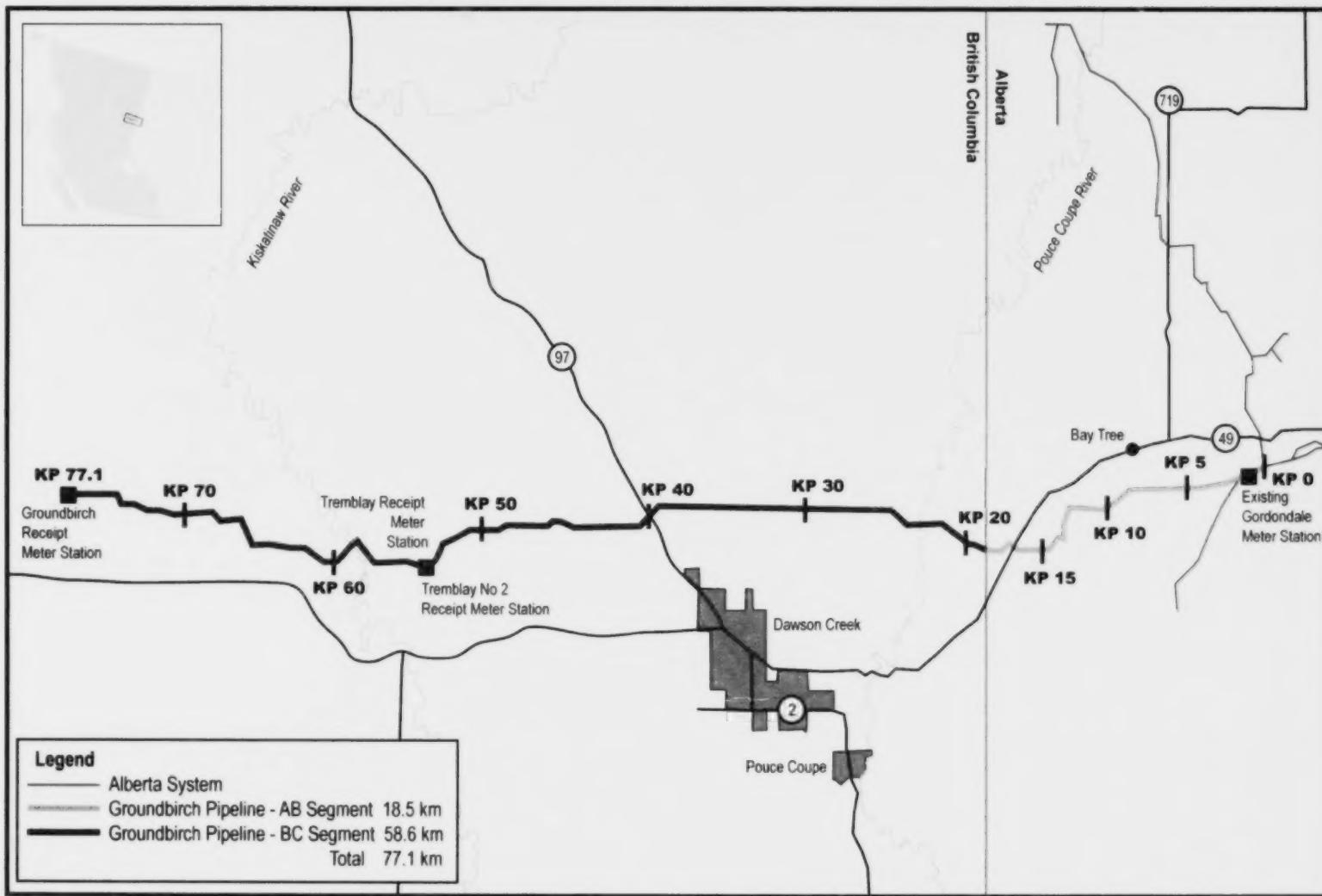
¹ Information Series; Pipeline Regulation in Canada; A Guide for Landowners and the Public, National Energy Board, page 21

In making its determination regarding public convenience and necessity, the Board must rely only on the facts that are established to its satisfaction through the hearing process, and must also proceed in compliance with the principles of natural justice.

1.3 Reasons for Decision GH-1-2009

These Reasons provide an overview of the matters considered by the Board in reaching a decision on the Application. Details of the Board's assessment of issues identified by the Board or by parties to the proceeding are set out in these Reasons. In coming to its findings, the Board considered all of the evidence on the record in this matter. The regulatory documents on file in the GH-1-2009 Hearing are available on the Board's website, www.neb-one.gc.ca.

Figure 1-1
Groundbirch Pipeline Project – Proposed General Route Map



Chapter 2

Economic Feasibility

In making its determination on the economic feasibility of a proposed pipeline, the Board assesses the need for the proposed facility and the likelihood of it being used at a reasonable level over its economic life. To make this determination, the Board considers the supply of natural gas that will be available to be shipped on the pipeline, any transportation contracts underpinning the Pipeline and the availability of adequate markets to receive natural gas delivered by the Pipeline. The Board also considers other commercial impacts of the proposed facilities and the Applicant's ability to finance the construction and ongoing operation and maintenance of the proposed Pipeline.

2.1 Need for Facilities

2.1.1 Natural Gas Supply

Views of NGTL

The applied-for facilities are in response to shippers' interest to connect sweet, sales quality natural gas, predominantly from the Montney Formation to the Alberta System. NGTL noted that current conventional natural gas production from the Cadomin, Doig, Gething, Baldonnel, Halfway, Bluesky, Charlie Lake and Kiskatinaw Formations would also be a source of gas to the Pipeline. NGTL submitted that the Montney Formation, as an unconventional gas play, represents a relatively new but potentially significant source of supply for Canada. Table 2-1 provides a summary of unconventional and conventional resource assessments for the Project area, net of established reserves that are currently connected to existing infrastructure and that are not expected to flow on the Project.

Table 2-1
Undiscovered Natural Gas Potential

Source	Gas in Place (10^9 m^3)	Marketable Gas (10^9 m^3)	Marketable Gas (Tcf)
Unconventional Gas	807.5	193.8	6.8
Conventional Gas	32.3	18.9	0.7
Total	839.8	212.7	7.5

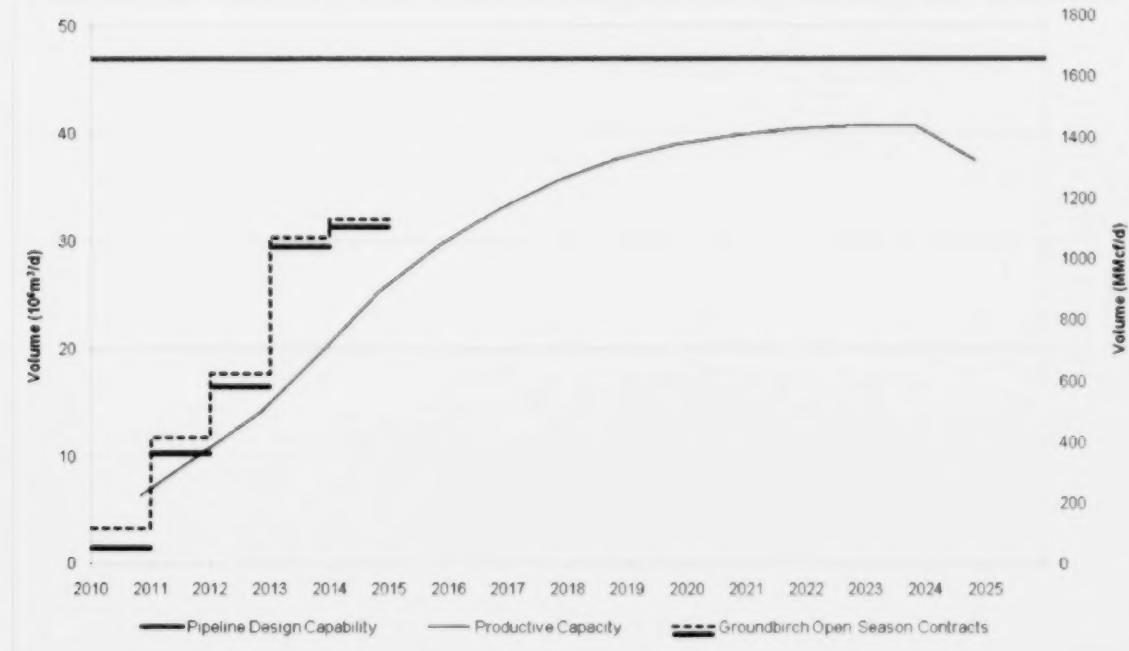
In order to develop its forecast of productive capacity for the Project, the average annual supply volumes expected to be transported by the Project, NGTL provided estimates of resource potential, the number of wells per section and the pace of development, as well as a typical well production profile for the drainage area of the applied-for facilities. NGTL stated that it excluded existing production and associated reserves as well as supply expected to be directed to existing and proposed Westcoast Energy Inc., carrying on business as Spectra Energy Transmission

facilities from its assessment of productive capacity. The forecast estimates the productive capacity for the Project to be $7.2 \text{ } 10^6 \text{ m}^3/\text{d}$ (255 million cubic feet per day (MMcf/d)) in 2010/11, increasing to a peak of $40.8 \text{ } 10^6 \text{ m}^3/\text{d}$ (1.44 billion cubic feet per day (Bcf/d)) in 2022/23.

A binding open season process was held by TransCanada PipeLines Limited (TransCanada) from 27 October 2008 to 1 December 2008. The open season resulted in five customers executing Project and Expenditure Agreements (PEA) which committed them to firm service transportation contracts. The contract volumes total $3.3 \text{ } 10^6 \text{ m}^3/\text{d}$ (115 MMcf/d) in 2010, increasing over time to $32.0 \text{ } 10^6 \text{ m}^3/\text{d}$ (1.130 Bcf/d), by the year 2014.

Figure 2-1 summarizes NGTL's productive capacity forecast, design pipeline capability and open season contract volume growth.

Figure 2-1
Productive capacity and open season contract volume growth comparison



Views of Parties

No intervenors questioned NGTL's supply evidence.

2.1.2 Natural Gas Markets

Views of NGTL

NGTL submitted that the Project would be an extension of the Alberta System and any gas received on it would be available for purchase and sale in the NOVA Inventory Transfer

commercial hub (NIT) and will be readily absorbed into the North American market. From the NIT, natural gas can be physically delivered to intra-Alberta or other North American markets via the Alberta System and interconnecting pipelines. The Applicant expects North American gas demand to increase from approximately $2.0 \text{ } 10^9 \text{ m}^3/\text{d}$ (70 Bcf/d) currently to $2.3 \text{ } 10^9 \text{ m}^3/\text{d}$ (80 Bcf/d) within 20 years, primarily as a result of increased use of natural gas for electricity generation. NGTL forecasted that Canadian gas demand will increase from $232 \text{ } 10^6 \text{ m}^3/\text{d}$ (8.2 Bcf/d) in 2008 to $331 \text{ } 10^6 \text{ m}^3/\text{d}$ (11.7 Bcf/d) in 2025, primarily due to greater consumption of natural gas in the oil sands sector.

NGTL noted that volumes from projects like the Pipeline will help offset declining overall production from the Western Canadian Sedimentary Basin, which, absent new supply, is in the order of $85 \text{ } 10^6 \text{ m}^3/\text{d}$ (3 Bcf/d) on an annual basis.

Views of Parties

No intervenors questioned NGTL's evidence regarding the adequacy of markets to receive and consume the gas to be transported on the Project.

2.2 Transportation and Throughput

Views of NGTL

NGTL indicated that five customers have committed to executing firm service transportation contracts with volumes of $3.3 \text{ } 10^6 \text{ m}^3/\text{d}$ (115 MMcf/d) in 2010, increasing to $32.0 \text{ } 10^6 \text{ m}^3/\text{d}$ (1.13 Bcf/d) by the year 2014. As shown in Figure 2-1, the productive capacity forecast for gas supplies to be connected to the proposed pipeline is expected by NGTL to peak at $40.8 \text{ } 10^6 \text{ m}^3/\text{d}$ (1.44 Bcf/d) in 2022/23. NGTL further submitted that the Project was designed to have a capability to transport approximately $46.9 \text{ } 10^6 \text{ m}^3/\text{d}$ (1.66 Bcf/d) and that the design capability would accommodate NGTL's forecasted productive capacity within the drainage area of the Project.

According to NGTL, the currently available capacity to receive incremental volumes downstream in the Gordondale area is less than the forecasted peak productive capacity. NGTL submitted that future changes to supply and demand on the system may cause this difference to change over time, and any requirement for additional downstream facilities in the Gordondale area will be assessed on an ongoing basis.

Views of Parties

Intervenors did not dispute NGTL's evidence regarding transportation and throughputs.

2.3 Ability to Finance

Views of NGTL

NGTL stated that the capital cost of the applied-for facilities is estimated to be \$251.4 million and that it will obtain the funds required for construction of the Project from its parent company, TransCanada. TransCanada, in turn, will fund these requirements with a combination of

internally-generated cash flow and funds obtained from Canadian and United States (US) capital markets. NGTL further stated that TransCanada does not expect financing the Project to have a material impact on its financial position or on its regulated operations.

NGTL submitted that, based on the existing Alberta System rate design, the revenue to be generated during the aggregated Primary Terms² of the five contracts underpinning the Project is estimated to be \$249.5 million. Therefore, NGTL submitted that the majority of the estimated capital cost for the Project will be recovered through revenue generated in the Primary Term.

NGTL also stated that the forecasted additional incremental volumes associated with the Project would result in a reduction to the full path ex-Alberta rate, and that this benefit would be expected to increase as additional contracts and throughput materialize in subsequent years.

Views of Parties

No concerns were raised by parties regarding the proposed method of financing or NGTL's ability to recover the capital cost of the applied-for facilities.

Views of the Board

The Board is satisfied that the evidence demonstrates there is adequate supply and contractual commitments to support the Project and that sufficient markets exist for the incremental gas that would be transported by the applied-for facilities. The Board is also satisfied that there is a reasonable alignment of design capacity with the expected peak productive capacity, and that additional downstream facilities are not required at this time. The Board is of the view that NGTL has the ability to finance the proposed Project.

Accordingly, the Board has determined that the applied-for facilities are needed, that they will be used at a reasonable level over their economic life and that the Project is economically feasible.

2 Proposed firm service contracts for the Groundbirch Pipeline Project have Primary Terms ranging from one to five years and Secondary Terms of three additional years. During the Primary Term of the respective contracts, a customer may nominate for service only at the receipt point identified in the contract. In the Secondary Term, the customer may transfer all or a portion of their service to another receipt point on the Alberta System, subject to the conditions in the Alberta System Tariff.

Chapter 3

Natural Gas Liquid (NGL) Matters

Views of NGTL

NGTL's assessment of the expected composition of gas to be received from the Project area is that it would have NGL content similar to gas flowing on the downstream Grande Prairie Mainline portion of the Alberta System. Given NGTL's expectation regarding the composition of gas to be transported on the Project and flows on its system, NGTL submitted that the Project would provide a net benefit to the NGL extraction industry.

NGTL acknowledged that the impact of the Project on the NGL industry may be a factor to be considered in the Board's assessment of the public interest. However, NGTL did not consider it necessary to conduct a more detailed NGL analysis for the Project.

Views of NOVA Chemicals Corporation (NOVA Chemicals)

NOVA Chemicals supported the Project but expressed concerns with the limited evidence provided by the Applicant on NGL composition and flows. NOVA Chemicals argued that a compositional analysis of the NGL content on the Alberta System, including actual and forecasted gas composition that would flow from the Project, was necessary to enable a proper assessment of the current and future impact of the Project on the NGL extraction industry.

Views of BP Canada Energy Company (BP)

BP did not oppose the Project nor did it take issue with the evidence provided by the Applicant. BP noted that this is the first opportunity for the Board to hold a hearing for an application for new facilities on the Alberta System. In BP's view, this proceeding presents an opportunity for the Board to manage any uncertainties associated with the transition of jurisdiction from one regulator to another.

BP offered several suggestions for the Board's consideration, although it noted that it did not intend for any such suggestions to become conditions of the Board's approval. BP suggested the Board acknowledge impacts on the NGL extraction industry are an element of the public interest. BP also suggested the Board direct, or at the very least encourage, NGTL to create a policy concerning detailed NGL analysis. Finally, BP suggested that the Board acknowledge the complexity of the issues associated with gas streaming on the Alberta System and the role of the Tolls, Tariff, Facilities and Procedures Committee (TTFP) in dealing with those issues.

Views of Talisman Energy Inc. (Talisman)

Talisman noted that, in its view, the Project would be in the public interest. Talisman submitted that ongoing work to address gas streaming is being conducted through NGTL's industry

collaborative process and that as a result, and given the broad industry implications, gas streaming should not be an issue for the Board's consideration in this Application.

Views of the Board

The Board finds that no party presented or adduced evidence demonstrating any likely adverse impacts on the NGL industry as a result of the construction and operation of the Project.

The Board acknowledges that issues surrounding NGL extraction in Alberta can be complex and contentious. However, the Board has not been persuaded that a detailed analysis of NGL content on the Alberta System, or a detailed assessment of the impact of the Project on the NGL industry, is required for the Board to make its conclusion regarding public convenience and necessity.

The Board has not been persuaded that any additional direction regarding NGL related issues is warranted in this case.

Chapter 4

Facilities

The Board uses a risk-based approach to ensure that NEB-regulated facilities and activities are safe and secure from their initial construction through to their abandonment. In considering the safety and security of proposed facilities, the Board assesses, at a conceptual level, whether the facilities are appropriately designed for the properties of the product being transported, the range of operating conditions, and the human and natural environment where the facilities would be located. Specific considerations include the company's approach to engineering design, integrity management, security, emergency preparedness, and health and safety.

When a company designs, constructs, operates or abandons a pipeline, it must do so in accordance with the NEB's *Onshore Pipeline Regulations, 1999* (OPR-99), the commitments made during the hearing, and the conditions attached to any approval. OPR-99 references various engineering codes and standards including *Canadian Standards Association Z662-07 Oil and Gas Pipeline Systems* (CSA Z662-07). The company is responsible for ensuring that it follows the design, specifications, programs, manuals, procedures, measures and plans developed and implemented by the company in accordance with OPR-99.

4.1 Description of Facilities

The Project facilities include approximately 77 km of 914 mm (36 inch) outside diameter pipeline, three metering stations, two block valves, and the appropriate tie-in valves, side valves, and blind flanges to connect to the existing Alberta System and to accommodate potential future expansion. The proposed Pipeline route extends from the downstream side of the existing Gordondale metering station, which is approximately 11 km east of Bay Tree, Alberta, to the Groundbirch area in BC, which is approximately 37 km northwest of Dawson Creek, BC.

The metering stations are proposed to be built in two locations: the Groundbirch receipt metering station at the western end of the Pipeline, and Tremblay and Tremblay No. 2 receipt metering stations 23 km east of the Groundbirch station. There will be a block valve co-located with the Tremblay and Tremblay No. 2 stations, and another block valve 19 km from the Alberta System tie-in point, between the Alberta/BC border and the Pouce Coupe river crossing.

The Pipeline would be designed to transport sweet natural gas at a maximum operating pressure of 9 930 kilopascals (kPa), with a design capacity of approximately 1.66 Bcf/day.

4.2 Design, Construction, and Operation

In discharging its regulatory oversight responsibilities, the Board uses a risk-based compliance verification approach to ensure that companies identify and manage integrity-related hazards which may impact safety and the environment throughout the life cycle of the project. This life cycle approach follows the project from design through construction and operation, until the pipeline is abandoned.

The adequacy, implementation and effectiveness of a company's commitments are typically verified by the Board through audits, inspections and meetings. In addition, the Board may also perform ongoing monitoring and follow-up of a company's compliance and incidents. This compliance approach is an integral part of the Board's continuous oversight of a company's pipeline and facilities. Accordingly, should the Project be approved, the Board would employ its normal compliance verification approach as a means of verifying that the company is meeting the commitments outlined in the GH-1-2009 proceedings.

Views of NGTL

NGTL submitted that the applied-for facilities would be designed, constructed, and operated in accordance with CSA Z662-07 and OPR-99. Programs and procedures such as the joining program and non-destructive examination of welds would comply with these standards.

Depth of Cover

The Pipeline is proposed to be buried to a depth of 1.2 metres (4 feet (ft)) on private agricultural lands, 0.9 metres (3 ft) on Crown lands, and at least 1.5 metres (5 ft) at watercourse crossings. If required, the Pipeline would be buried deeper beneath the watercourse bed where there is potential for scouring. Buried utilities and road or highway crossings will have a clearance of the greater of industry standards or as agreed to with the third party owner.

In response to the South Peace Landowners Association (SPLA) concern regarding depth of cover, NGTL submitted that its proposed depth of cover on agricultural lands is double the applicable Canadian Standards Association (CSA) standard and, in its experience, sufficient to protect the Pipeline and allow for agricultural operations. NGTL noted that where individual landowners have site specific concerns regarding depth of cover it will work with those landowners to address their concerns and provide appropriate mitigation.

Geotechnical

NGTL submitted that it had conducted a geotechnical review of the proposed pipeline route, which did not identify any significant concerns. Geotechnical assessments were also carried out for the planned horizontal directional drilled (HDD) crossings of the Kiskatinaw and Pouce Coupe rivers.

Construction Safety

NGTL indicated that it would develop a Project-specific construction safety program, and would comply with all applicable requirements of the federal and provincial industrial, occupational, and health and safety regulations, as well as TransCanada's internal Health, Safety, and Environment Commitment Statement.

Emergency Response

In the event of an emergency such as a pipeline break, low pressure detectors on block valves will cause the valves to close, isolating the pipeline segment. Pipeline pressure is also monitored through the TransCanada Operations Control Centre (OCC) in Calgary, Alberta.

NGTL stated in its Application that the existing emergency response plan for the Alberta System will be expanded to include the Project. This plan will be completed prior to the Pipeline being placed in service, and will enable NGTL to coordinate with emergency response agencies in the area.

Operation

To address pipeline operation and system maintenance, NGTL proposed to use the applicable TransCanada Operating Procedures. These describe how the work is accomplished, identify competency and documentation requirements, and provide references to the appropriate health, safety, and environment requirements.

The Project will be monitored and controlled from the OCC, which is staffed 24 hours a day. A Backup Control Centre is available at all times in the event the OCC becomes unavailable. Both control centres use a computer-based Supervisory Control and Data Acquisition (SCADA) system to monitor and control compressor, metering, and remote valve facilities. This system retains a broad range of data from across the entire pipeline.

Integrity Management

The primary goal of an integrity management program (IMP) is to prevent leaks and ruptures caused by in-service degradation of the pipeline. NGTL indicated that the principal objectives of its IMP are to:

- Ensure the safety of the public and employees;
- Reduce environmental impacts;
- Protect the installed pipelines and facilities; and
- Maintain reliability.

NGTL therefore employs a regular preventative maintenance program, which includes aerial patrols, in-line inspection, monitoring of cathodic protection, and installation of pipeline markers at road and watercourse crossings. Mitigation activities, if necessary, are initiated based on results of risk assessments of this information.

NGTL also uses an Integrated Public Awareness program, the goals of which include protecting the public from injury, protecting the installed facilities, and reducing or minimizing third party damage to facilities.

The Project will be designed for a useful life in excess of 30 years, following which it will be decommissioned or abandoned in accordance with the regulatory requirements at the time.

Views of the South Peace Landowners Association

The SPLA expressed concerns related to the design, construction, and operation of the Pipeline. These concerns included whether the depth of cover would be sufficient to accommodate modern agricultural practices, whether construction would be carried out in a safe and minimally-

disruptive manner, and whether risks have been assessed and mitigated – in particular, that there are an appropriate number of emergency shutoff valves.

SPLA members have also expressed concerns about the ongoing structural integrity of the Pipeline, and the method for removing the Pipeline from service in the future, particularly where there is a potential effect on their land.

Views of the Board

The Board finds that, in light of the forecasted productive capacity of the area, the proposed Pipeline and metering stations would be required. Should a Certificate be issued, the Board will require NGTL to design, locate, construct, install and operate the Project in accordance with the specifications, standards, and other information referred to in its Application or as otherwise agreed to during questioning or in its related submissions (Condition 2 of Appendix II).

With regard to depth of cover, the Board notes that the proposed design meets or exceeds CSA Z662-07 requirements, which, in the Board's view is sufficient to accommodate ordinary agricultural practices. NGTL has committed to work with individual landowners to address site specific concerns regarding depth of cover, and the Board expects it to do so.

Regarding geotechnical issues, the success of HDD depends on actual conditions encountered. In the event of a proposed change in the HDD watercourse crossing methodology or if a watercourse crossing method other than HDD is required, the Board would require notification, as well as the rationale for the change. Should a Certificate be issued, the Board will impose a condition to this effect (Condition 21 of Appendix II). Additionally, permits for watercourse crossings must be obtained by the Company from other governmental agencies, such as the Department of Fisheries and Oceans.

The Board is of the view that final design and construction specifications, as well as operational practices, must address safety considerations. In order to facilitate the ongoing review by the NEB of the Applicant's safety plans and performance, should a Certificate be issued, the Board will impose a condition requiring NGTL to submit a construction safety manual prior to the commencement of construction (Condition 19 of Appendix II). Through its construction oversight, the Board would verify compliance with this manual.

The Board requires companies to develop and implement an IMP to proactively identify and mitigate any potential hazards to the Pipeline and facilities. The IMP is a continuous improvement process to be used throughout the life cycle of the Pipeline. Should a Certificate be issued,

the Board will apply its risk-based compliance verification approach to ensure that NGTL complies with its IMP commitments.

With respect to abandonment, the NEB Act requires that an application be submitted if and when facilities are to be abandoned. NGTL would be required to comply with applicable regulatory requirements at that time. The Application for abandonment is subject to examination under the NEB Act and triggers a requirement for an EA under the CEA Act. The NEB would therefore provide regulatory oversight during the abandonment phase of the Project. Further, the Board has committed to address issues related to abandonment through its Land Matters Consultation Initiative (LMCI).

With regard to incident response and control, the Board notes that the placement of block valves meets or exceeds CSA Z662-07 requirements as well as industry practice. Additionally, the OCC would be notified should the pressure vary from the design conditions.

Should a Certificate be issued, the Board will impose a condition requiring NGTL to file the updates to its emergency response plan, as well as a security program in accordance with Proposed Regulatory Change 2006-01 (Conditions 23 and 14 of Appendix II). The security program is intended to provide for safe and secure practice in the design, construction, operation and maintenance of a pipeline system.

4.3 Post-Construction Integrity Validation

4.3.1 Alternative Integrity Validation

Introduction

Prior to placing a pipeline in service, a determination must be made whether it has the integral strength to withstand the operating pressure, and contain the product. Traditionally, this determination is made by performing a hydrostatic pressure test, but recently, Alternative Integrity Validation (AIV) has been proposed as another way to accomplish this result.

AIV is a process intended to verify the integrity of a pipeline by implementing a comprehensive Quality Management System (QMS). A management system, in general, is a framework of processes and procedures used by an organization in order to fulfill its objectives. It would normally contain elements such as accountabilities, procedures for tasks, and tools for auditing and continuous improvement. A QMS to ensure the integrity of a new pipeline, therefore, would include all the activity related to design, pipe specifications, pipe manufacturing, and construction.

The OPR-99 requires that companies approved to construct and operate a pipeline comply with CSA Z662. CSA Z662-07 in turn requires that all pipelines undergo pressure testing before being placed into operation. The pressure test serves a number of purposes, primarily the

demonstration of pipeline strength and leak tightness. First, the strength component of a pressure test demonstrates pipeline integrity and ability to withstand the anticipated Maximum Operating Pressure with a minimum safety margin of 1.25. Second, the leak test ensures that the pipeline does not contain any small holes that would leak gas once it is placed in service. Predominantly for safety reasons, pressure tests are typically conducted using a liquid medium such as water (hydrostatic test).

The Board has, in the past, granted relief from hydrostatic testing requirements and approved the use of AIV on one project, the Deux Rivières Loop portion of TransCanada's Eastern Mainline Expansion. In granting Leave to Open for that project, the Board stated in a letter dated 19 October 2006 that it considered the AIV process to have been "a field trial of new technology". Furthermore, the Board also indicated that "for the AIV process to progress beyond the field trial stage, the Board expects a demonstration that a documented and effective quality management system is fully implemented".

Views of NGTL

In its Additional Written Evidence, filed 27 July 2009, NGTL requested a waiver from the sections of OPR-99 and CSA Z662-07 that pertain to hydrostatic testing, proposing instead to implement its AIV process as part of its Quality Management System (QMS). The proposed waiver would pertain only to line pipe in Class 1 areas; major road and watercourse crossings would be hydrostatically tested. NGTL stated that the AIV approach is equivalent to, or better than, hydrostatic testing, and that the AIV approach is preferred due to the Project's limited access to water.

NGTL's documented AIV process specifies that any decision regarding use of AIV "should be made during the definition stage" of project management. NGTL acknowledged, however, that it had determined to pursue AIV on the Project and seek post-construction hydrostatic test waiver approximately three months after the filings of its Project Application with the Board.

Notwithstanding the request for hydrostatic test waiver contained in its Additional Written Evidence, NGTL later clarified that a formal request for hydrostatic test waiver would follow at a later date. NGTL confirmed that it was seeking approval of its filed QMS and AIV processes based on the record developed in this proceeding.

In response to the Board's information requests, NGTL filed further information regarding its previous experience using AIV and its rationale for doing so, mitigation of hazards, proposed leak detection methods, in-line inspection and third-party surveillance. The Board also requested NGTL to file copies of its QMS and AIV procedures, and the recommendations resulting from various audits of both.

NGTL sought leave of the Board to file copies of the requested QMS and AIV procedures and audit recommendations on a confidential basis. No party objected to this request and, by rulings dated 25 September and 3 November 2009, the Board approved the filing of such information on a confidential basis pursuant to section 16.1 of the NEB Act. These rulings are included in Appendices III and IV.

NGTL stated that the QMS is sufficient to ensure the integrity of the Pipeline, as it enables NGTL to identify and remove potential failure causes prior to service, rendering the hydrostatic test redundant. With respect to leak detection, NGTL committed to a ground-based survey utilizing flame ionization for leak detection for the entire length of the Project.

NGTL noted certain benefits of the AIV approach, including reduced cost and reduced environmental impact. The Company also indicated that it considers AIV with a hydrostatic test waiver to provide NGTL with a strategic commercial advantage.

With respect to improvements to the QMS, NGTL also acknowledged that not all of the corrective actions and preventive actions identified during past audits have been implemented yet. As well, an audit scheduled for 2009 had been delayed and was not yet completed.

Views of the Board

In the Board's view, any alternative to a hydrostatic test must demonstrate that its effectiveness and reliability are at least equivalent to the pressure testing currently required by CSA Z662-07. NGTL's proposed AIV process is relatively new and is not recognized by OPR-99 or CSA Z662-07 as a replacement to the hydrostatic test.

AIV involves a heightened level of quality assurance and quality control which are intended to ensure quality is built into all stages of the Project. Therefore, a comprehensive and mature QMS is integral to the successful use of AIV and any hydrostatic test waiver. Other factors which the Board considers important include low applied strains, successful hydrostatic test of a representative portion of the Pipeline, class location, low operating stress, oversight by an independent third party, and Company specifications enhanced beyond minimum requirements of standards.

The Board notes that NGTL has developed an AIV process and related documentation in accordance with recommendations following previous projects. However, in the Board's view, the AIV process and the QMS which governs it are in an early stage of development and, as such, have not yet fully benefited from continuous improvement processes. While the system has been audited and some corrective actions identified, not all have been completed. Accordingly, based on its assessment of the evidence, the Board does not consider it appropriate to approve the Company's QMS and AIV processes as filed.

The Board supports the development and implementation of new technologies, materials, and processes such as AIV trials, and notes that NGTL has some previous, but limited, experience using AIV in the construction of pipelines of similar length, with similar stress levels and safety factors. Therefore, NGTL may implement the QMS and AIV processes and subsequently apply for partial exemption from hydrostatic testing requirements.

Should NGTL choose to apply for a hydrostatic test waiver, and if the Board is satisfied that the QMS and AIV processes have been fully and successfully implemented, and have demonstrated that AIV is an acceptable alternative to hydrostatic testing, it may grant a partial waiver from hydrostatic testing. In the absence of application for, and receipt of approval of relief from hydrostatic testing, NGTL will be required to comply with CSA Z662-07 Clause 8 requirements for pressure testing of 100 percent of the proposed pipeline.

In the Board's view, notwithstanding any application for a waiver, a hydrostatic test will be required on a significant representative portion of the total length of the Class 1 pipeline segments for the Project, to act as a validation of the AIV process. Additionally, the Board would require NGTL to engage an independent third party to audit the QMS and AIV processes and their implementation on the Project. The independent third party would report simultaneously to the Board and NGTL in accordance with a Board-approved Statement of Work.

In the Board's view, any waiver from hydrostatic testing would be conditional only, such that in the event the Board is not satisfied that pressure testing has demonstrated AIV to be an acceptable alternative to pressure testing, the Board may require 100 percent of the proposed pipeline to be hydrostatically tested prior to the Pipeline being placed into service. In this regard, the Board would consider the result of the partial hydrostatic testing in providing validation of the AIV process, third party audit of the QMS and AIV processes and their implementation, and other relevant information.

With respect to any portions of the Pipeline for which exemption from hydrostatic testing is to be sought, application for exemption from Clause 8 of CSA Z662-07 and paragraph 4(1)(d) of the OPR-99, shall be made pursuant to subsection 48(2.1) of the NEB Act. In order to ensure the timely and appropriate processing of any such application, the Board would expect NGTL to file any exemption application with the Board no later than 30 days following the issuance of the Certificate for the Project, and would expect the application to include, at a minimum, the information referred to in Appendix VI of these Reasons for Decision.

The Board notes that much of the available information regarding TransCanada's QMS and AIV processes was filed confidentially with the Board, and that NGTL has described its AIV process as giving rise to a competitive advantage to the Company. The Board also notes that the potential of AIV has been raised with the Canadian Standards Association (CSA) but that CSA has, to date, declined to initiate more detailed consideration of the approach.

The Board is concerned with the development of a significant alternative safety and integrity validation process in a manner that does not facilitate review, comment and involvement by all interested industry participants, regulators and stakeholders. The Board also questions whether relief from generally applicable regulatory requirements is appropriately the subject of competitive advantage amongst industry participants, as described by NGTL. In this regard, the Board notes that no evidence was offered by the Company to suggest either that its own QMS processes are more robust than similar processes employed by other industry participants, or that its hydrostatic test result and integrity record varies in any significant manner from that of other industry participants.

In the Board's view, if industry's adoption of enhanced QMS approaches to pipeline design and construction call into question the continued relevance of the post-construction hydrostatic test from a cost-benefit perspective, consideration of that issue is best addressed either by recognized standard-setting bodies, or through a full, open and generic consideration of that issue by interested parties. In the Board's view, such broader consideration of the AIV issue can be undertaken while appropriately respecting confidential business process information.

In view of the early developmental state of AIV, and in the absence of evidence of broader industry consideration of the AIV approach, the Board would continue to consider any use of AIV to be a field trial.

In the event of the proposed use of AIV in future, the Board would also expect NGTL to have decided whether or not to use AIV and potentially seek hydrostatic test waiver at its definition stage of project development, as required by its own AIV process. The Board would also expect the Company to file all QMS and AIV related information, including any recommended revisions to the processes, in a timely manner along with the Project Application. In addition, the Board would encourage the Company to indicate its proposed use of AIV to the Board as early as possible in its project development, through pre-application meetings or otherwise.

As a procedural matter, the Board notes that NGTL did not file its QMS or AIV process documentation as part of the Additional Written Evidence even though NGTL advised, in that document, that it would rely on those processes to support the proposed hydrostatic test waiver for the Project. NGTL confirmed that it was specifically seeking approval of its AIV process as part of this proceeding, notwithstanding the fact that the Company's AIV process documentation was filed with the Board only days prior to the commencement of the hearing, and in direct response to a Board information request. When questioned regarding its approach of seeking specific approval of a process which was not filed until requested by the Board, NGTL advised that it had expected to obtain further

guidance regarding documentation requirements through the Board's information request process. In the Board's view, the Company's expectation in this regard is unacceptable. The Board considers it both unrealistic and inappropriate for a company to seek approval of a process in a proceeding without filing that process with the Board at the earliest possible opportunity.

Chapter 5

Public Consultation

The Board requires companies to undertake an appropriate level of public consultation, commensurate with the setting, nature and magnitude of a project.

This chapter focuses on broader public consultation. NGTL's Aboriginal consultation and engagement matters are discussed in Chapter 6.

5.1 NGTL's Public Consultation Program

Views of NGTL

NGTL designed and conducted its public consultation program in accordance with the principles of TransCanada's consultation practice. NGTL's consultation program consisted of four phases:

1. Stakeholder Identification and Early Notification: focused on initial public disclosure of the Project and the initiation and solicitation of stakeholder dialogue, including monitoring and responding to inquiries during the first few months following initial notification of the Project.
2. Stakeholder Outreach: focused on the implementation of comprehensive and direct stakeholder engagement, including community meetings, open houses and ongoing information distribution and dialogue to provide more detailed Project information and to invite continued dialogue.
3. Ongoing Stakeholder Outreach and Regulatory Filings: focused on ongoing stakeholder consultation and communication to continue to solicit feedback, expand stakeholder dialogue, address and resolve issues and advise stakeholders about the process they can use to participate in the Board's regulatory process and comment to the Board about the Project. This phase culminated with the filing of NGTL's Application.
4. Post Filing through Construction: continues through the regulatory review process until the completion of construction, including stakeholder updates, responding to inquiries and emerging issues, resolving issues carried over from prior engagement activities and continued communication with all stakeholders. This phase would conclude with the completion of construction, at which point consultation activities would be transferred to TransCanada's Integrated Public Awareness (IPA) Program, to ensure ongoing stakeholder communication and issue resolution as required during operation.

NGTL's consultation program sought to identify landowners and stakeholders relevant to the Project. NGTL initially contacted 74 affected landowners. The program later expanded to encompass a 400 m consultation zone, through which NGTL identified and contacted an additional 59 landowners.

NGTL began its consultation activities in August 2008. NGTL used a variety of methods to provide information on the Project to interested and affected parties. These methods included personal meetings, mail-out packages, public notice advertisements in local newspapers and open house meetings. Comprehensive consultation with stakeholders and landowners began in October 2008. Open house events were held between October 2008 and April 2009 in the communities of Bonanza, Dawson Creek, Rycroft and Grand Prairie. NGTL continued consultation activities during the Board's regulatory process, and committed to making itself available to meet with stakeholders throughout the course of the Project.

NGTL noted a number of concerns that were raised by stakeholders through NGTL's engagement activities, including a directly affected landowner with concerns about underground seeping and drinking water quality, and a grazing lease holder. NGTL confirmed that it would continue to consult with and discuss mitigation measures with potentially affected individuals. In respect of the directly affected landowner, NGTL committed to incorporate any mitigation measures that are agreed to in its environmental protection plan (EPP) for the Project.

Regarding the concerns raised by the SPLA, NGTL stated that it became aware of existence of the SPLA in June 2009. NGTL submitted that it has met and continues to meet with individual landowners, including those who are SPLA members and directors, to discuss concerns and issues related to the Project. NGTL also stated that it had not yet met with the SPLA as an organization but is willing to consult with landowners and their representatives, including the SPLA, in respect of the Project. NGTL stated that the Cooperation Agreement, described on page 42 of section 7.3, is an innovative and strategic arrangement intended to enhance long-term relationships with landowners, and that a purpose of the Confidentiality Agreement is to prevent disclosure of its terms to TransCanada's competitors. NGTL acknowledged that the Confidentiality and Cooperation Agreements represent a new approach, and that improvements could be made.

In response to SPLA's request for funding to undertake negotiations with NGTL, NGTL stated that it is not prepared to fund activities of landowner groups as a pre-condition for entering into negotiation nor will it fund the SPLA unconditionally or without a defined scope.

Views of the South Peace Landowners Association

The SPLA expressed concern about the adequacy of NGTL's landowner consultation process, noting that its member landowners had been provided with limited information with respect to the Project.

SPLA also raised concerns about NGTL's Confidentiality Agreement, which had been provided to landowners. The SPLA's member landowners had not previously dealt with the Confidentiality Agreement and, as a result, member landowners had difficulty understanding it. Furthermore, SPLA stated that member landowners had received varying interpretations of the Confidentiality Agreement from the Company some of which were contradictory. SPLA submitted that the manner in which the Confidentiality Agreement was provided to landowners (along with the section 87 notices) may have led landowners to believe that the Confidentiality Agreement was approved by the NEB. Finally, SPLA stated that it believed the Confidentiality

Agreement interferes with the right of their landowner members to be effectively represented through the organization.

Views of the Board

The Board acknowledges NGTL's efforts to identify and consult with potentially affected and interested stakeholders, and its commitment to continuing public and landowner consultation throughout the life of the Project.

The Board recognizes the concerns expressed by the SPLA regarding consultation with the SPLA organization, and the perceived impact of NGTL's Confidentiality Agreement on the organization's ability to effectively represent its members. While the Board notes NGTL's stated objectives in the development and use of the Cooperation and Confidentiality Agreements, it finds that the impact of the Confidentiality Agreement on certain landowners and their representatives has, in part, frustrated these objectives.

The Board notes NGTL's commitment to meet with the SPLA. The Board encourages the SPLA and NGTL to discuss outstanding concerns, and to seek mutually agreeable solutions. In the event that the Project is approved, the Board would direct NGTL to file with the Board an update on its consultation activities including consultation with SPLA.

The Board also notes that NGTL is committed to continue consultations with all potentially affected stakeholders. The Board further notes NGTL's commitment to on-going communication, after Project construction through TransCanada's IPA Program.

While the Board notes the inability of NGTL and SPLA to have effectively engaged in early and effective consultation regarding issues of concern to the SPLA, the Board generally finds the design and implementation of NGTL's consultation program to have been appropriate given the setting, nature and magnitude of the Project.

Chapter 6

Aboriginal Matters

6.1 Enhanced Aboriginal Engagement Process for the Groundbirch Project

It is the practice of the Board to obtain as much evidence as possible about the potential impacts of a project on Aboriginal groups. The Board assesses the potential impacts and then factors those consideration into its final decision. In order to ensure that the Board's record is as complete as possible, the Board relies on evidence provided in accordance with the requirements of the Filing Manual. The Board also relies on its Enhanced Aboriginal Engagement (EAE) initiative and its hearing process.

Pursuant to the Board's Filing Manual, the project proponent must identify, engage and consult with potentially affected Aboriginal groups prior to the filing of an application. In addition, the proponent must learn about the concerns of Aboriginal groups, and attempt to address those concerns to the fullest extent possible. The proponent is expected to continue its discussions with Aboriginal groups as the regulatory process unfolds, and if the project is approved, during the construction and operation phases of the project. The project application must contain detailed information on the proponent's consultation work, including a description of any unresolved issues or concerns. Aboriginal groups are encouraged to engage with the proponent so that their concerns may be identified earlier providing for concerns to be considered and potentially resolved before the application is filed.

The Board's EAE initiative aims to provide proactive contact with Aboriginal groups that may be affected by a proposed project, and to help Aboriginal groups understand the regulatory process and how to participate. The Board reviews the completeness of the list of potentially affected Aboriginal groups identified in the proponent's project description filed with the MPMO. The Board may suggest to the proponents any necessary revisions. The Board then sends letters to each potentially impacted Aboriginal community or organization on the revised list, informing them of the project as well as the Board's regulatory role in respect of the project, and offering to provide further information on the hearing process. Subsequent to the letters, Board staff follow up, sending out information and holding meetings where requested.

Finally, the Board encourages Aboriginal groups with an interest in the project to participate in the hearing process in order to make the Board aware of their views and concerns. There are various ways for Aboriginal groups to make their views known directly to the Board. This can include a letter of comment, oral statements, written evidence, oral testimony by elders and members of Aboriginal groups, cross-examination of the project proponent and other parties, and final argument.

For the Project, the NEB carried out its EAE work between the receipt of the Project description (27 November 2008) and the receipt of the Project Application (30 April 2009). Five Aboriginal

groups requested and were provided information meetings on the Board's hearing process, namely Duncan's First Nation (DFN), Horse Lake First Nation (HLFN), Saulteau First Nation (SFN), Tsek'hene (McLeod Lake) First Nation, and West Moberly First Nations.

Two Aboriginal groups participated in the GH-1-2009 proceeding. DFN and HLFN provided oral statements at the oral portion of the hearing, which included oral evidence provided by elders from each First Nation.

No other Aboriginal groups applied to be intervenors in the proceeding, provided letters of comment, or made oral statements at the Board's hearing.

6.1.1 Aboriginal Engagement and Consultation

Views of NGTL

NGTL's primary goals for its Aboriginal engagement process for the Project were to:

- identify the potential effects of the Project on the current use of the lands for traditional activities;
- identify sites of cultural and historical importance to Aboriginal people that may be affected by the Project;
- obtain local and traditional knowledge relevant to the Project; and
- build and enhance relationships relating to community expectations and community protocols.

NGTL initially identified potentially affected Aboriginal groups for the Project based on an engagement zone of approximately 50 km on either side of the proposed Pipeline route. NGTL also identified those Aboriginal groups with an established relationship with the Company whose traditional territories are located within the engagement zone. In order to identify other Aboriginal groups that may have traditional lands in the Project area, NGTL also contacted federal and provincial government departments responsible for Aboriginal affairs.

A total of 17 Aboriginal groups were identified as being potentially affected by the Project and were contacted by NGTL:

- Blueberry River First Nation
- Duncan's First Nation
- Doig River First Nation
- Fort Nelson First Nation
- Halfway River First Nation
- Horse Lake First Nation
- Kelly Lake First Nation
- Kelly Lake Cree Nation

- Kelly Lake Métis Settlement Society
- Lheidli T'enneh First Nation
- Moccasin Flats Métis Society
- Northeast Métis Association
- Prophet River First Nation
- Saulteau First Nation
- Tsay Keh Dene First Nation
- Tsek'hene (McLeod Lake) First Nation
- West Moberly First Nations

Two Aboriginal organizations, the Métis Nation of Alberta Region 6 and the Treaty 8 Council of Northeast BC, were also identified and contacted by NGTL.

NGTL noted that the proposed Pipeline route is located within the Treaty No. 8 area, and does not cross any Indian Reserves or lands that have been designated for Reserve status as defined under the *Indian Act*.

NGTL began its Aboriginal engagement for the Project in fall 2008. NGTL employed a number of communication methods for its Aboriginal engagement, including mail-outs, emails, telephone calls, meetings and open houses. Project information was provided to identified Aboriginal groups, including photo mosaics of the proposed route, and schedules of planning, regulatory and construction activities. Aboriginal groups were advised of NGTL's Application filing date with the Board, and were asked to confirm the level of interest they might have in the Project.

NGTL developed engagement activities and maintained engagement logs for those Aboriginal groups that expressed an interest in participating in NGTL's Aboriginal Engagement process. As part of its Application and subsequent submissions, NGTL provided evidence of its consultation activities with the following 11 Aboriginal groups:

- Duncan's First Nation
- Doig River First Nation
- Halfway River First Nation
- Horse Lake First Nation
- Kelly Lake First Nation
- Kelly Lake Cree Nation
- Kelly Lake Métis Settlement Society
- Northeast Métis Association
- Saulteau First Nation
- Tsek'hene (McLeod Lake) First Nation

- West Moberly First Nations

NGTL confirmed that the remaining six Aboriginal groups identified as being potentially affected were made aware of the Project but either chose not to participate in NGTL's engagement program, did not notify NGTL of any interests or concerns relating to the Project, or indicated to NGTL that they had no ongoing interest in the Project area.

NGTL confirmed that, should the Project be approved, it would continue to follow its Aboriginal Engagement process during construction. NGTL further confirmed that for the operations phase, it would adopt TransCanada's IPA program to continue Aboriginal engagement activities.

In response to DFN's statement that it had not been adequately consulted on routing options early in the project planning stages, NGTL stated that it provided DFN with a photo-mosaic map showing the proposed Project route early in its Aboriginal Engagement Process (September 2008). NGTL noted that it was in regular contact with DFN between September 2008 and January 2009, but that DFN did not raise the issue of routing during that time. NGTL further stated that it was informed by DFN in January 2009 that the proposed route passed through an area where DFN members hunt and camp, and that DFN inquired whether the portion of the route on Crown land could be relocated to avoid possible adverse effects to these interests.

NGTL further noted that as a result of feedback received from stakeholders, landowners and Aboriginal groups, it determined an alternative route to avoid or minimize the potential adverse effects identified, including the effects identified by DFN. NGTL discussed the route alternative with DFN and provided updated photo-mosaic maps in March 2009. The alternative route identified was subsequently adopted by NGTL as the applied-for route for the Project. NGTL stated that no further issues were raised by DFN with regard to the proposed route, and that a specific routing alternative along Highway 49 was not proposed to NGTL until DFN's request to make an oral statement was filed with Board on 8 September 2009.

In response to DFN's concern that issues raised by DFN were not incorporated into the Project's EA, NGTL stated that DFN elders were provided an opportunity to investigate the entire RoW, including both private and Crown lands, during the collection of Traditional Ecological Knowledge (TEK) as part of field investigations for the Project's EA. NGTL noted that TEK provided by DFN members was incorporated into biophysical studies, and was therefore considered in developing mitigation measures within the EA.

NGTL stated that it renewed a Community Agreement with DFN in November 2009. NGTL indicated this Community Agreement provides a protocol between the Company and DFN for project referrals, business opportunities and community investment. NGTL stated that this agreement and other investments in community projects by NGTL were evidence of socio-economic benefits to DFN.

With respect to its consultation with HLFN, NGTL stated that it followed the defined consultation policy set by the Director of HLFN Industrial Relations Corporation (IRC). NGTL confirmed it had 18 contacts with HLFN between September 2008 and June 2009, and submitted correspondence from the former IRC Director indicating that HLFN had no concerns regarding impacts from the Project.

NGTL acknowledged that a new Chief and Council were elected in October 2009, and that the new HLFN administration had advised NGTL of the need to undertake further community engagement. NGTL noted that no Project-specific issues had been raised. NGTL stated that it is committed to continuing dialogue with HLFN, and to developing a protocol agreement that defines a process of engagement with HLFN.

Regarding its consultation with other Aboriginal groups, NGTL confirmed that those Aboriginal groups that did not participate in NGTL's Aboriginal Engagement process have not subsequently raised any concerns with the Company. NGTL committed to advising the Board of any concerns, should any be raised. NGTL further committed to ongoing consultation with affected and interested Aboriginal groups throughout the life of the proposed Project.

Views of Duncan's First Nation

DFN stated that it participated in NGTL's engagement program and in the Board's Hearing in order to alert NGTL and the Board to its concerns. DFN stated that it was not adequately consulted about routing options early in the project planning stages by NGTL. DFN noted that, had it been consulted earlier in Project planning, it would have had the opportunity to present routing alternatives for the Project, which could have located the proposed Project corridor further away from areas of importance to DFN.

DFN also expressed concern that NGTL had not incorporated its issues into the Project's EA. DFN further stated that while elders were allowed to thoroughly investigate, via site visit, the Project RoW in Alberta, DFN was not able to follow up on certain concerns regarding private lands which are within DFN's traditional territory in BC. These private lands were not investigated as part of TLU studies undertaken for the Project.

Finally, DFN stated that while it continues to work with NGTL to establish a better working relationship that addresses the needs of the community, its view is that accommodation and mitigation of socio-economic impacts must be a substantive outcome of consultation, particularly when a proposed project has impacts to traditional territory. DFN requested that, as a matter of policy, the Board require further evidence of proponents about their collaboration with Aboriginal groups, including information in respect of the assessment and mitigation of socio-economic impacts of a proposed project.

Views of Horse Lake First Nation

HLFN stated that it was concerned that the traditional use interests of HLFN had not been adequately considered. HLFN indicated that the former Director of the Industrial Relations Corporation (IRC) for HLFN had been in contact with NGTL at the time NGTL initiated engagement activities, but had chosen not to involve HLFN in TLU studies for the Project. A new Chief and Council was elected in October 2009, and HLFN subsequently decided to participate in the GH-1-2009 Hearing. After the election, the current IRC representative had contacted NGTL to express concerns regarding the identification and assessment of traditional land use resources of interest to HLFN. The current IRC representative had also requested to visit the proposed RoW in order to discuss these concerns and to inquire about methods of construction. HLFN stated that NGTL did not respond to this request.

HLFN stated that it would be a decision of HLFN Chief and Council whether to participate in any future TLU studies for the Project.

6.1.2 Potential Impacts of the Project

Views of NGTL

As part of its Aboriginal engagement activities, NGTL undertook TLU studies for the purposes of identifying traditional land and resource use issues or concerns relating to the Project. The stated objectives of the TLU studies were to:

1. identify potential impacts and concerns by determining the extent and general nature of each community's traditional use of the land relative to the proposed development;
2. provide a mechanism for collecting traditional knowledge and information, such as the nature and location of trails, culturally modified trees, habitation sites, medicinal and food source plants and hunting, fishing, trapping and gathering places and sacred areas, while maintaining the confidentiality of each community's proprietary information;
3. provide Aboriginal use and traditional knowledge information, where appropriate, to be used in the effects assessment of traditional land uses potentially affected by the Project; and,
4. establish, and agree upon, appropriate site-specific mitigation measures to address the concerns raised, relative to the Project, on current uses of the land for traditional purposes.

TLU studies covered the traditional territories of interested Aboriginal groups which were located on Crown lands and transected by the proposed route. Field investigations focused on those areas that would be directly disturbed by Project construction and clean-up activities. Locations outside the Project RoW that were of interest to a given community were also investigated.

A total of seven Aboriginal groups elected to directly participate in NGTL's TLU studies:

- Doig River First Nation;
- Duncan's First Nation;
- Kelly Lake First Nation;
- Kelly Lake Métis Settlement Society;
- Tsek'hene (McLeod Lake) First Nation;
- Northeast Métis Association; and
- Saulteau First Nation.

One Aboriginal group, the Kelly Lake Cree Nation, completed its own TLU study for the Project. The remaining nine Aboriginal groups identified as being potentially affected by the

Project either indicated no ongoing interest in the Project area and chose not to participate in TLU studies, or did not notify NGTL of any interests or concerns relating to traditional land use.

In order to avoid or reduce impacts to identified TLU sites, NGTL developed mitigation measures in collaboration with the participating Aboriginal communities. NGTL noted that fieldwork relating to the identification of TLU sites has been completed with the eight interested Aboriginal groups. Mitigation and wrap up meetings to identify any additional TLU issues and confirm mitigation measures with interested Aboriginal groups remain to be completed by NGTL.

NGTL stated that 17 members of DFN participated in the TLU studies, and that DFN members provided TEK for six biophysical studies. DFN members identified 32 sites in the vicinity of the Project, including a cabin site, 11 plant harvesting sites and 12 wildlife areas (including three black bear dens, a grizzly bear den, a fox den, two active beaver lodges and a beaver dam on Sergeant Creek, and active beaver lodges on a tributary of Henderson Creek). NGTL noted that DFN was concerned the RoW will create a wider corridor for moose hunters to access the area, and that continual development will reduce the number of animals the area can sustain. NGTL also noted that concerns had been raised about land access for traditional purposes, for example, for DFN members using waterways in the Project area during construction at Fox and Sergeant Creeks. NGTL stated that DFN identified other areas of interest, but noted that DFN confirmed the route effectively avoided these sites.

NGTL proposed a number of measures to mitigate potential impacts to the sites identified by DFN and other participating Aboriginal groups. In order to ensure that land access for traditional use is not interrupted, NGTL committed to provide DFN with information regarding the time and duration of construction at Fox and Sergeant Creeks. NGTL confirmed the identified cabin site is located 600 m north of the RoW and will not be impacted by the Project, and that the entrance to the cabin area will be fenced to ensure no impact from foot traffic during construction. In respect of traditional berries and plants identified on the RoW, NGTL also noted its general mitigative measures for plant species in the Project area, which may include limiting the use of chemical applications, replacement of plant species during reclamation, or avoidance.

NGTL also proposed mitigation measures for the wildlife areas identified by DFN and other participating Aboriginal groups. NGTL submitted that the beaver dams and lodges identified by DFN will not be impacted by construction. Route adjustments were implemented to avoid impact to the grizzly den in the Saddle Hills area and a black bear den on the east side of the Kiskatinaw River. A man-made moose lick and hunter's blind will be avoided. With respect to an identified black bear den located within the RoW, NGTL indicated that construction is scheduled to avoid the active bear-denning period, and if the den is determined to be active at the time of construction, NGTL will determine any necessary additional mitigation in consultation with the BC Ministry of the Environment (MOE). Prior to construction activities, the fox den identified by DFN will be fenced off and avoided. If the den is determined to be active, additional mitigation measures will also be determined with BC MOE. NGTL noted that successful and accepted mitigation may further be implemented to ensure no negative effects occur to wildlife species, including the creation of buffer zones around identified resources, and limiting the use of chemical applications.

NGTL also noted specific requests relating to traditional use that were raised by Aboriginal groups that participated in the TLU studies. The Kelly Lake Cree Nation and the Tsek'hene (McLeod Lake) First Nation requested that Aboriginal monitors from the communities be involved in construction phase monitoring within their traditional territories.

NGTL committed to consider further information provided by potentially affected Aboriginal groups regarding mitigation measures to address potential impacts on traditional land uses and sites. NGTL further committed to implement its contingency plan should TLU sites be discovered during construction and to incorporate all mitigation measures relating to TLU into the Project EPP. Finally, NGTL also committed to the use of monitors from interested Aboriginal groups, where requested, to observe construction activities at identified TLU sites.

Views of Duncan's First Nation

DFN raised concerns about the routing of the Project along Crown lands within their traditional territory, and expressed particular concern regarding potential impacts to traditional uses and interests in the Saddle Hills area. DFN was of the view that the Project would further fragment habitat in the Saddle Hills area, and would interfere with their Treaty rights, including hunting, the gathering and use of plant resources, camping and general land access. DFN stated that the Saddle Hills area is the only area that provides close access for the community to hunt and to collect a number of medicinal and food plants. DFN was of the view that it is very important to maintain resources in the Saddle Hills area as a result.

To reduce potential impacts to their traditional rights and activities on Crown lands, DFN recommended two specific routing alternatives that would locate a greater length of RoW onto privately held lands north of the current proposed route. DFN further recommended that, if re-routing proved impractical, NGTL should be required to mitigate the impacts of the Project, and to adopt a "no net loss" approach as part of this mitigation planning. A full description of these routing alternatives and the "no net loss" approach, including the Views of the Parties is contained in Chapter 7.

Views of Horse Lake First Nation

HLFN did not participate in TLU studies for the Project and, as previously described, had initially confirmed to NGTL that it had no concerns about Project effects on TLU. However, during the oral portion of the GH-1-2009 proceeding, HLFN expressed concerns about the potential effects of the Project on their Treaty rights in the Saddle Hills area, including impacts to hunting, camping, and the gathering and use of medicinal plants. HLFN suggested that re-routing the Alberta portion of the RoW to parallel Highway 49 or to follow an existing RoW near Bay Tree, Alberta may reduce potential impacts to the current traditional use activities of HLFN in the Saddle Hills area.

Views of the Board

Aboriginal Engagement and Consultation

The Board is of the view that all Aboriginal groups potentially affected by the Project were provided with sufficient details about the Project and given the opportunity to make their views known to NGTL and the Board. The Board notes NGTL's commitment to ongoing Aboriginal consultation and engagement throughout the life of the Project, including the implementation of TransCanada's IPA program.

With respect to the Applicant's consultation with HLFN, the Board is of the view that NGTL appropriately followed the engagement protocols that were provided by the elected leadership of HLFN at the time NGTL initiated engagement activities. The recently elected leadership of HLFN has different concerns with respect to the Project and the Board notes NGTL's commitment to ongoing discussions with HLFN. The Board expects that NGTL will maintain an effective program of consultation in order to allow HLFN's Project-related concerns to be identified and addressed to the extent possible.

DFN requested the Board to consider, as a policy matter, broadening the consultation requirements for proponents to include further consultation on socio-economic matters. The Board is of the view that its existing expectations of proponents already include significant consultation requirements, as well as detailed requirements for information regarding potential environmental and socio-economic impacts and potential mitigation. In regards to environmental and socio-economic impacts, applicants are expected to describe the terms of reference for how potential project impacts have been assessed, the specific mitigation measures to be used for a project, and all the potential impacts that may result, including socio-economic impacts. The Board further expects applicants to consider the use of traditional knowledge where appropriate, and to provide Aboriginal groups with an opportunity to confirm the interpretation of the information, and how the information was used in project design. Accordingly, the Board is of the view that its expectations of proponents ensure that it has adequate evidence to properly consider the potential socio-economic impacts of a proposed project. Nothing precludes applicants and Aboriginal groups from expanding their discussions beyond these issues, though not all such discussions may be relevant to the Board's decision.

In respect of this particular Project, the Board is satisfied that NGTL has provided sufficient information to the Board about its accommodation and mitigation of the socio-economic impacts on DFN. NGTL provided evidence of its consultations with DFN throughout the project planning phase, including the issues and concerns that were raised by DFN and the

manner in which NGTL has responded or proposes to respond. The Board notes that DFN also participated in the TLU study and contributed TEK to six biophysical studies for the Project. Finally, the Board notes the recent Community Agreement signed by DFN and NGTL, as evidence of efforts to address mutual interests, and acknowledges the commitments by both parties to continue their ongoing working relationship to address the socio-economic issues of interest for DFN.

The Board encourages all proponents and Aboriginal groups to engage early in the project planning and assessment stages, so that they may work collaboratively to address any interests and concerns, including concerns related to socio-economic impacts.

Potential Impacts of the Project

The Board heard evidence to suggest that given the location of the Project, it could potentially have adverse impacts on traditional use sites and/or activities. NGTL's comprehensive TLU study identified 32 specific TLU sites. NGTL has proposed a number of measures to reduce or eliminate impacts to these identified sites and to sites that may be identified in the future. These measures include site-specific and standard mitigation measures, the use of monitors from Aboriginal communities during construction activities and NGTL's commitment to implement its contingency plan should TLU sites be discovered during construction, where requested.

The Board is of the view that the studies undertaken by NGTL were effective in identifying potential impacts of the Project on the interests of participating Aboriginal groups, and in developing necessary mitigation measures. In addition to the site-specific and standard mitigation proposed by NGTL, the Board also notes the comprehensive program of measures for reducing or eliminating potential Project impacts on wildlife, vegetation, rare plants, and water and water quality as contained in NGTL's EA. For those groups that did not participate in the Applicant's TLU and TEK studies, the Board finds that NGTL provided these groups with adequate details about the Project, and with sufficient opportunities to identify, raise and discuss any concerns they may have had about the Project. The Board notes that no further concerns have been raised as a result of this process, and that NGTL has committed to advising the Board of any subsequent concerns, should any be raised.

The Board notes NGTL's commitments to continue consulting with interested Aboriginal groups, to consider additional mitigation measures and to incorporate all mitigation pertaining to TLU into the Project EPP. The Board further notes NGTL's commitment to completing a final TLU report that would identify any additional issues or concerns. Should the Project be approved, the Board would therefore require NGTL to file with

the Board, as part of its EPP, a final TLU report for the Project. In this regard, the Board would expect, in particular, a summary of any outstanding TLU issues or concerns raised by potentially affected Aboriginal groups, including a description of how these concerns or issues have been or will be addressed by NGTL.

The Board notes that the detailed route for the Project has not been finalized. The Board must consider the best possible detailed route of the Project during the detailed route approval process, as set out in sections 33 through 39 of the NEB Act. The Board notes that DFN and HLFN have continued concerns regarding Project routing along Crown lands. A full discussion regarding routing, including the concerns of DFN and HLFN and the views of NGTL, is contained in Chapter 7 of these Reasons.

The Board notes the mitigation measures and procedures outlined in NGTL's evidence and NGTL's commitments to consider additional concerns raised by Aboriginal groups. In light of these measures and commitments, and the Board's recommendations relating to environmental protection measures, and submission of a final TLU report, the Board finds the Project's impacts on lands and resources utilized for traditional purposes will be effectively mitigated to the fullest extent possible.

Chapter 7

Description of Land Matters

The Board requires applicants to provide a description and rationale for the proposed general route of the Pipeline, as well as the permanent and temporary lands required for the Project. The Board also requires a description of the land rights proposed to be acquired, as well as the land acquisition process and the status of land acquisition activities. This information permits the Board to assess the appropriateness of the proposed general route of the Project, the proposed land requirements and the applicant's land acquisition program.

7.1 Routing

7.1.1 General Route Description

Views of NGTL

The proposed general route of the Project extends from the downstream side of the existing Gordondale Meter Station, on the Alberta System in LSD 2-12-79-12 W6M, approximately 11 km east of Bay Tree, Alberta, to the Groundbirch area in LSD 2-3-79-19 W6M of northeast BC, approximately 37 km northwest of Dawson Creek, BC. NGTL submitted that the total length of the Pipeline route is approximately 77 km, consisting of 18.5 km in Alberta and 58.5 km in BC.

NGTL stated that approximately 7.5 km of the proposed route is contiguous with existing pipeline, railway and all season public road RoW. Approximately 69.5 km of new RoW, that is RoW not alongside and contiguous to existing RoW, will be required for the Project. About 16.5 km of the non-contiguous RoW is located in Alberta and 53 km in BC. Approximately 68.2 km of the proposed general route of the Project is located on private lands, with the remaining 8.8 km on Provincial Crown lands in Alberta and BC.

NGTL identified the centreline of the applied-for general route, together with a 50 metre wide environmentally assessed area on either side of the centreline of the proposed general route.

7.1.2 General Route Selection

Views of NGTL

NGTL stated that a thorough route identification, analysis and evaluation process was undertaken for the Project. Candidate pipeline corridors were identified and evaluated using maps, aerial photographs, satellite imagery and both aerial and ground reconnaissance to consider terrain, geotechnical conditions, land ownership and use data.

NGTL identified four candidate corridors for the Project which share a common central corridor for about 25.5 km of the Project. In August and September 2008, and again in March 2009,

NGTL's multi-disciplinary project team reviewed the preliminary general route options within the candidate corridors. Input on the route options from landowners, the public, Aboriginal groups and regulatory agencies was considered in selecting a preferred route.

NGTL noted that potential routes were constrained by two primary and four secondary control points. The two primary control points are the fixed end locations. The four secondary control points are feasible water crossing locations for the Pouce Coupe River, Kiskatinaw River, Sergeant Creek and Fox Creek.

NGTL submitted that the preferred general route for the Pipeline was selected because it was most successful in meeting the following route selection criteria:

- consideration of stakeholder input along the route;
- minimizing environmental impacts at river and creek crossings;
- minimizing length in forested areas and disturbance of vegetation important to wildlife;
- minimizing slope and sideslope terrain encountered;
- avoiding higher population density areas as much as practical;
- minimizing the Project footprint;
- minimizing the length of the Pipeline; and
- minimizing the creation of new access by following existing RoW to the extent practical.

NGTL identified all landowners directly affected by the proposed pipeline route and created a 400 metre consultation zone (200 metres either side of the proposed pipeline centreline). Landowners were contacted by NGTL's land agents to advise them of the Project, obtain permission to complete field surveys and studies, and answer any questions.

In response to routing alternatives proposed by DFN and the HLFN, NGTL submitted that the proposed general route most appropriately balanced the interests of all stakeholders, and was designed to avoid, as a primary mitigation, sensitive areas and habitat locations. NGTL submitted that it had discussed the route with First Nations and developed mitigation measures to address concerns regarding traditional land use.

NGTL stated that its original route would have impacted 15 km of Crown lands in Alberta, and as a result of the feedback received from stakeholders, including DFN's concerns regarding potential Project effects within Crown lands, a further route refinement reduced this to approximately 7.5 km.

NGTL submitted that the proposed tie-in point of the Project to the Gordondale Lateral was dictated by the absence of other similarly sized pipeline infrastructure in the area and hydraulic design considerations. Having selected the proposed tie-in location, NGTL noted that routing through the surrounding Crown land was unavoidable. Its proposed routing from KP 0.0 to 4.3 parallels an existing linear disturbance for the first 1.7 km and, in the view of NGTL, represents the shortest route through this area of Crown land. The second area of concern to DFN in the

Saddle Hills area, between KP 12.3 and KP 15.2 was routed through Crown land as a result of landowner concern about subdivision and other activities in the area.

In response to DFN's recommendation for an alternative route along Highway 49, NGTL submitted that due to existing surface developments along Highway 49, (including residences, hamlets and above-ground facilities), there would be an increase in the number of affected landowners, as well as an approximately two to three km increase in route length and associated Project cost. NGTL also noted landowner concern with any such routing, as well as less satisfactory watercourse crossing locations. For these reasons, NGTL determined that paralleling Highway 49 was not a feasible alternative.

In response to both DFN and HLFN submissions regarding the Bay Tree Route, NGTL noted that it had previously assessed the feasibility of the "Bay Tree" Route and determined that it was not feasible as it would add eight to ten km to the Project length, increasing the Project footprint and impacting more lands and landowners; and NGTL also stated that the hearing was the first time that the "no net loss" recommendation had been raised by DFN.

Views of Interested Parties

DFN and HLFN identified concerns with portions of NGTL's preferred general route for the Project. Concerns focused on the portions of the general route that passed through Provincial Crown lands, particularly in an area referred to as Saddle Hills, predominantly along the Alberta portion of the proposed route, but also extending into northeast BC. Discussion of DFN's and HLFN's concerns regarding impacts of the proposed route on their traditional use of Crown lands is contained in Chapter 6 of these Reasons.

Views of Duncan's First Nation

DFN objected to the proposed routing through the Saddle Hills as it would adversely impact their current and on-going traditional uses on Crown lands and potentially open up the area to further development. DFN also submitted that NGTL had not properly consulted with them at an early project planning stage regarding routing options. DFN stated that this precluded them from presenting options for routing along Alberta Highway 49 which would have placed the proposed Project route further away from areas of importance to DFN. A full discussion of NGTL's Aboriginal Consultation Program is contained in Chapter 6 of these Reasons.

To address their concerns, DFN proposed two routing alternatives for the Project; the first being to relocate a portion of the route in Alberta to be adjacent to Highway 49 (Highway 49 Route). The second alternative would be to relocate the Alberta portion of the route to follow an existing RoW north of Bay Tree, Alberta (Bay Tree Route), which was described by DFN as being located 3 km north of Highway 49 in Alberta.

DFN further recommended that, if re-routing proved impractical, NGTL should be required to adopt a "no net loss" approach as part of its mitigation planning. This would include reclaiming equivalent portions of other abandoned corridors, or areas in close proximity to the Cutbank and Sergeant Creek areas, to provide suitable habitat conditions.

Views of HLFN

HLFN raised concerns regarding the potential impacts of the Project on current traditional use of Crown lands in the Project area. This included impacts on hunting activities and the collection of medicinal plants, in the Saddle Hills area. HLFN suggested that the route be moved north to the Bay Tree route, onto land already disturbed.

Views of the Board

The Board finds that NGTL has presented a reasoned approach to its selection and use of criteria in the evaluation of routing alternatives for the Project. The Board also notes the proposed modifications made by NGTL to the location of its preferred general route, in response to issues identified by potentially affected landowners, Aboriginal groups and other stakeholders. The Board considers the general route selection process implemented by NGTL, including stakeholder input in the decision-making process and the comparative evaluation of several routing alternatives, to have been appropriate given the nature and setting of the Project.

The Board has assessed the evidence in respect of the alternative Highway 49 and Bay Tree general route alignments that were proposed by DFN and the HLFN as a means of further reducing the impact of the Project on Crown land and associated traditional use activities. The Board notes that NGTL's proposed general route alignment avoids Crown land in the area of interest of DFN and the HLFN but for two segments of Crown land located at KP 0.0 to 4.3 and KP 12.3 to 15.2, of the proposed pipeline route. In both locations, portions of the proposed route parallel existing linear disturbances.

NGTL's route evaluation process included, as one of two primary control points, the proposed tie-in location of the Project to the existing Alberta System. The Board finds as reasonable NGTL's proposed tie-in location of the Project with the existing Alberta System on the Gordondale Lateral, just downstream of the existing Gordondale Meter Station, due to physical and hydraulic constraints. The Board also notes that the proposed tie-in location is in an area of existing development associated with the Gordondale Meter Station.

In respect of the proposed Bay Tree general route alignment, the Board accepts the evidence of NGTL that this alternative route would increase the length of the Project by eight to ten km (in excess of ten percent of the Project length). Such an increase in Project length would have corresponding impacts on cost and overall environmental footprint. The proposed Highway 49 alternative route alignment would also increase overall Project length. Most significantly, given the Board's acceptance of the appropriateness of the general location of the tie-in with the existing

Alberta System, neither of the route alternatives presented would remove the Project from the area of Crown land between KP 0.0 and 4.3. Further, in the Board's view, although no other general route alternatives were presented for its consideration, less significant detailed route refinements may further minimize or avoid impacts to traditional use of Crown lands at KP 12.3 to 15.2.

There is insufficient evidence on the record in this proceeding for the Board to assess whether the proposed general route is the most appropriate detailed route of the Project. However, it is not appropriate at the certification stage of project development for the Board to consider and evaluate the best possible detailed route of the Project. Determination of the best possible detailed route of a Project can only be made by the Board during the detailed route approval process, prescribed by sections 33 through 39 of the NEB Act.

The opportunity exists for detailed route alignment that may further minimize impact to Crown lands. The Board is specifically interested in consideration by NGTL, in consultation with DFN and the HLFN, of potential detailed route alignment to further reduce adverse impacts on the traditional use of Crown lands by DFN and the HLFN, including potential detailed route alignment between KP 12.3 and 15.2 that might avoid Crown lands.

In the event a Certificate is issued for the Project, NGTL will be required to prepare a plan, profile and book of reference (PPBoR) that depicts the proposed detailed route of the Project. The Board would impose a condition requiring NGTL to file, with its PPBoR, an update on its consultation with DFN and the HLFN in respect of the potential for detailed route alignment that would further reduce impacts on the traditional use of Crown lands by DFN and HLFN (Condition 7 of Appendix II). Further to the Board's discretion associated with detailed route approval, the Board will consider and evaluate the appropriateness of the detailed route to be proposed by NGTL.

The Board is not persuaded that either of the two general route alternatives presented is preferable to the general route described by NGTL. Accordingly, the Board will not reject the general route described by NGTL in favor of the general route alternatives suggested by DFN.

The Board notes DFN's proposal that, in the event routing to further minimize impacts to traditional use activities on Crown lands cannot be practically achieved, NGTL be required to adopt a "no net loss" approach, as part of its mitigation planning, whereby equivalent portions of other abandoned corridors in areas in close proximity to the Cutbank and Seargent Creek area would be reclaimed and brought back to productivity. The Board lacks sufficient evidence at present to assess the

practical feasibility of any such approach in this case. However, the Board is of the view that this might be an innovative approach that NGTL could productively explore in further consultation with DFN.

The feasibility of further mitigation of impacts of the Project on traditional use activities through additional habitat restoration may be relevant to the Board's subsequent assessment of the proposed detailed route of the Project. Accordingly, should a Certificate be issued, the Board will impose a condition requiring NGTL to file with the Board and serve on DFN, no later than its filing of PPBoR for the Project, NGTL's view regarding the practicality of additional habitat restoration activities as a means of further mitigation of impacts of the Project on the traditional use of Crown lands, preliminary information regarding the existence of candidate lands, if any, and a summary of consultation with DFN regarding these matters.

7.2 Land Requirements

Views of NGTL

NGTL submitted that, in order to construct, maintain and operate the Pipeline, new permanent RoW and temporary work space (TWS) would be required. It stated that on the private land portions of the Project, a permanent 20 metre wide RoW would be required with up to an additional 19 metre wide strip adjacent to the permanent RoW taken as TWS. On Provincial Crown land, a permanent 29 metre wide RoW would be required. NGTL also noted that in some locations the TWS required may be wider due to site specific needs. NGTL further noted that the lands required for the Project would cross 74 titled tracts of land held by private landowners.

NGTL submitted that TWS on private land will be required for the construction phase of the Project only, and will not be required for long term operational needs. It noted that the extent and locations of additional TWS that may be required will be determined in the field prior to construction with due regard to environmental impacts. NGTL stated that temporary facilities including staging areas, decking sites, fuel storage, waste containment and a construction site office would be required during construction and that these locations would be selected according to a number of siting criteria designed to minimize impacts.

NGTL submitted that an estimated 0.40 hectares would be required for each of three proposed meter station sites (Groundbirch, Tremblay and Tremblay No. 2). The Groundbirch meter station site would include lands for the potential installation of launcher facilities for in line inspection purposes. Receiver facilities would be contained within a valve site. The lands required for the five proposed valve sites would be contained within the boundaries of the permanent pipeline easement.

NGTL noted that lands would be required for permanent roads to access measurement and above-ground facilities, such as meter stations and valve sites. It stated that permanent access to the proposed meter station sites had already been secured with landowner lease agreements. The Groundbirch Receipt Meter Station permanent access is approximately 33 metres long by

six metres wide and the Tremblay Meter Stations shared access is approximately 70 metres long by six metres wide. Wherever practical, the RoW and existing public roads would be used for access, and new temporary and permanent access roads would be minimized. NGTL stated that preferred locations for other temporary and permanent accesses had been identified and it had begun to contact landowners to discuss these locations. In the event that landowner negotiations were unsuccessful to obtain the necessary land rights for preferred permanent and temporary access road locations and TWS, NGTL confirmed that it would apply to the Board for right of entry orders.

NGTL stated that temporary access will be required at four major crossings, (Pouce Coupe and Kiskatinaw Rivers, Alberta Highway 49 and BC Highway 97), where HDD will be employed. At these locations NGTL submitted that it will consult with affected landowners to identify and acquire suitable access.

7.3 Land Acquisition

Views of NGTL

Approximately 58.6 percent of the route in Alberta is on private land, and 41.4 percent is located on Provincial Crown land. In BC, approximately 98 percent of the route is on private land and 2 percent on Provincial Crown land.

In BC, companies that require Provincial Crown lands for the purpose of constructing and operating their pipelines must apply to the Province's Integrated Land Management Bureau for permanent or temporary Crown land tenures. For Provincial Crown land in Alberta, applicants must obtain Crown land tenure from Alberta Sustainable Resource and Development. NGTL submitted that it will apply for the appropriate Crown land rights dispositions needed for the Project in each province.

NGTL indicated that on private lands, the proposed pipeline and ancillary facilities would generally require the negotiation and acquisition of easements for the Pipeline RoW. NGTL noted that supplemental agreements would be required for each of the valve sites, which would be located within the Pipeline RoW. Leases would also be required for meter station sites and permanent access roads. Temporary rights would be needed for TWS, temporary access roads, staging areas and storage areas during construction.

As part of its land acquisition strategy for the Project, NGTL stated that it has been implementing the following elements:

- specific consultation with, and pre-construction reports prepared for, landowners found to be directly affected by the preliminary detailed pipeline route, to learn more about specific property features and each landowner's property uses in order to find potential compatibilities in detailed route siting;
- entering special requests made by landowners into a construction line list; and
- commencing service of section 87 notices and land acquisition negotiations with landowners directly affected by the proposed general route.

NGTL stated that it has been implementing these elements as part of its landowner consultation process since August 2008. Discussion of NGTL's Public Consultation Program is found in Chapter 5 of these Reasons.

NGTL stated that land acquisition agreements for pipeline easements will be negotiated with landowners, and in the absence of agreement, a right of entry order would be sought from the Board. Application for right of entry order(s) would also be sought in the case of non-agreement for the acquisition of TWS and both temporary and permanent access road requirements.

NGTL noted that 74 easement agreements with private landowners were required for the Project RoW, and that at the time of the oral hearing, 38 of these easement agreements had been executed.

NGTL referred to a Cooperation Agreement that was offered to all landowners from whom permanent easement was required for the Project. NGTL stated that the Cooperation Agreement is aimed at trying to better define its relationship with landowners through the regulatory process, the construction process and operating and maintaining the facility. In order to obtain and review the Cooperation Agreement, landowners were required to first execute a Confidentiality Agreement requiring that the contents of the Cooperation Agreement be kept confidential. At the time of the oral hearing, NGTL confirmed that approximately 48 Confidentiality Agreements had been executed by landowners.

NGTL submitted that, notwithstanding the Confidentiality Agreement, landowners could seek permission from NGTL to discuss the Cooperation Agreement with others. NGTL also indicated that it would be willing to consider means of allowing SPLA members to discuss the Cooperation Agreement amongst each other. NGTL also advised that the principles within the Cooperation Agreement are consistently applied to all landowners executing the agreement, and insisted that the Cooperation Agreement and land access rights were two separate matters. A landowner refusing to consider the Cooperation Agreement would still be fully compensated for the easement under the easement agreement.

NGTL indicated that it would be prepared to file the Cooperation Agreement with the Board, subject to doing so on a confidential basis pursuant to section 16.1 of the NEB Act. In the absence of any objection to such confidential filing, the Board ruled that it was prepared to receive the Cooperation Agreement on a confidential basis pursuant to section 16.1 of the NEB Act. NGTL subsequently filed a pro forma copy of the Cooperation Agreement with the Board on that basis.

NGTL filed sample forms of notice of proposed acquisition of lands, as well as sample copies of its easement agreements. NGTL also submitted that if requested by landowners, it would provide them with a copy of the detailed appraisal report supporting its statement of the value of lands required for the easement.

In response to SPLA's concerns regarding the conduct of its land agents, NGTL stated that it had engaged the services of a respected land agency, and that a large component of the land agent training program was focussed on NGTL's expectations consistent with its code of conduct.

Views of the South Peace Landowners Association

In respect of land acquisition, SPLA expressed concern regarding the lack of transparency of the Cooperation Agreement and its provisions, as well as the conduct of NGTL's land agents.

Views of the Board

The Board finds that NGTL's anticipated permanent and temporary land requirements are reasonable and justified.

The Board notes that NGTL's rationale for developing the Cooperation Agreement was an effort to define and improve its long-term relationships with landowners. The Board also notes that SPLA has concerns with the Confidentiality Agreement which limited the ability of landowners and the SPLA to receive and discuss the contents of the Cooperation Agreement. The Board notes NGTL's willingness to explore ways in which it could facilitate discussion of the contents of the Cooperation Agreement amongst interested SPLA members.

The Board recognizes the concerns raised by SPLA regarding land agent conduct. The Board encourages NGTL to continue to provide appropriate oversight and training to its land agents in order to work towards continual improvement in the performance of its land agents. The Board views land agents as the front line company representatives, and it is the Company's responsibility to ensure that land agents deal with landowners in a professional and respectful manner.

The Board notes NGTL's commitment to consult with and to record, track and address issues raised by affected landowners, both prior to and following pipeline construction. The Board will impose a condition that requires NGTL to create and maintain records to chronologically track Project-related landowner complaints or concerns and how they have been addressed (Condition 8 of Appendix II).

Chapter 8

Environment and Socio-Economic Matters

The Board considers environmental and socio-economic matters under both the CEA Act and the NEB Act. The Board expects applicants to identify and consider the effects a project may have on bio-physical and socio-economic elements, the mitigation to reduce those effects and the significance of any residual effects once the mitigation has been applied.

This chapter provides a description of the EA process used by the NEB for the Project. It also addresses the socio-economic issues that are not evaluated in the ESR in accordance with the CEA Act.

8.1 Environmental Screening Process

The Project requires a Certificate under section 52 of the NEB Act and, thus, triggered the requirement for an EA under the CEA Act. Since the Project will not require more than 75 km of new RoW and as defined in the CEA Act *Comprehensive Study List Regulations*, the Project is subject to a screening level of EA under the CEA Act.

Pursuant to the CEA Act *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements* (Federal Coordination Regulations), the NEB coordinated Responsible Authority and Federal Authority involvement in the CEA Act process.

Following the oral portion of the hearing, the Board issued a DESR for public review and comment. The Board received comments from Fisheries and Oceans Canada (DFO), Transport Canada (TC), Environment Canada (EC), DFN and SFN. The Applicant subsequently filed its comments on 3 and 5 February 2010.

The final Environmental Screening Report reflects parties' comments and the Board's assessment of the bio-physical and socio-economic effects of the Project along with mitigation measures based on the Project description, factors to be considered and the scope of those factors. The ESR also includes recommendations for conditions to be included in any Board regulatory approval.

8.2 Cumulative Effects Assessment

Views of NGTL

NGTL states that the cumulative effects assessment was conducted based on requirements of the CEA Act, guidance documents from the CEA Agency and the NEB Filing Manual. NGTL further stated that it utilized a project-specific cumulative effects assessment which took into account past, existing, and imminently expected projects and activities. Modeling tools were used, albeit not those specifically mentioned by DFN.

Views of Duncan's First Nation

DFN requested that the Board convene and host a meeting amongst the Governments of Alberta, BC and Canada, Aboriginal groups and project proponents to entertain presentations on the subject of cumulative effects and discuss the role of First Nations in NEB project reviews. DFN also recommended that the Board obtain information on the manner in which those jurisdictions propose to address the need to assess and manage cumulative effects, discuss cumulative effects assessment at a regional and landscape level, and consider how information obtained may be utilized to inform subsequent NEB project review.

On a Project-specific level, DFN requested that the Board require NGTL to undertake, on a pilot basis, a more expansive assessment of cumulative effects, taking into account upstream and downstream impacts, using alternative models.

Views of the Board

With respect to its regulatory decision under the NEB Act, the Board has considered the CEA Act ESR and the recommendations included therein.

The Board determined in the ESR that, with the implementation of NGTL's environmental protection procedures and mitigation measures and the Board's recommendations, the proposed Project is not likely to cause significant adverse environmental effects. In the event that the Project is approved, the Board would convert the recommendations contained in the ESR into conditions of its approval.

The Board notes DFN's request that the Board entertain presentations on the subject of federal and provincial cumulative effects assessment and management, discuss the role of First Nations in project reviews and consider how the information obtained may be used to inform subsequent NEB project reviews. To further such information exchange, DFN suggested that the Board convene and host a meeting with representatives of the governments of Alberta, BC and Canada, as well as First Nations and project proponents.

The Board notes that as a quasi-judicial tribunal it has obligations of procedural fairness to all parties who participate in its review of project applications. The Board's GH-1-2009 Hearing Order established the process for the Board's receipt of evidence and submissions associated with its review of the NGTL Application for the Project, pursuant to both the CEA Act and the NEB Act. This request of DFN was first received by the Board during the oral portion of the GH-1-2009 proceeding, just prior to the close of the record of the proceeding. DFN presented no information to suggest that it has solicited interest of any of the governments referred to, or other persons or groups, in participating in the requested session. Neither has DFN suggested how the information obtained might inform the Board's specific review and consideration of

this Project Application. Accordingly, it would be unfair to NGTL for the Board to delay consideration of its Application in order for the Board to seek to organize and host the requested meeting of governments, First Nations and project proponents, and to subsequently incorporate related information on the hearing record in a procedurally appropriate manner.

In respect of DFN's request that the Board request DFN to undertake, on a pilot basis, a more expansive assessment of cumulative effects for the Project, the Board is of the view that the cumulative effects assessment submitted by NGTL is sufficient to enable the Board to reach its determination of significance in respect of this Project under the CEA Act, and is adequate in relation to the scope and setting of the Project. However, the Board notes the evolving and increased awareness and demand for information regarding the assessment and management of cumulative effects, and is of the view that it is important for the companies it regulates to be responsive to such interest. The Board considers that it would be desirable to see continuing improvement in cumulative effects assessments that support project applications. One opportunity for such improvement may be explicit reference in application materials to alternative cumulative effects assessment methodologies and modelling programs, as well as rationale for their selection. The Board would also encourage early consultation on the topic of cumulative effects assessment with potentially interested parties.

For details regarding the Board's assessment of the environmental and socio-economic effects evaluated pursuant the CEA Act, the reader is referred to the ESR. Copies of the ESR are available in Appendix V of this report, in the NEB library or on-line within the Board's Regulatory Documents at www.neb-one.gc.ca.

8.3 Socio-Economic Matters considered under the NEB Act

The Board expects companies to identify and consider the impacts that a project may have on socio-economic conditions, including the mitigation of negative impacts and the enhancement of project benefits.

Potential socio-economic effects covered by the CEA Act are included in the ESR. The CEA Act contemplates indirect socio-economic effects caused by a change to the environment as a result of the Project. Direct socio-economic effects caused by the existence of the Project itself are assessed under the NEB Act and are discussed below. Other economic effects are addressed in Chapter 2.

Employment and Economy

NGTL submitted that the Project is expected to result in positive impacts on employment and the economy. NGTL noted that residents in the Project area have expressed a desire to benefit from the Project through business contracts and job opportunities. NGTL indicated that construction

contracting opportunities will be made available to qualified competitive local business wherever possible, in order encourage and promote local businesses, and that construction of the Project is also expected to result in indirect business and employment opportunities. NGTL stated that overall, the Project would result in positive effects on gross domestic product and tax revenues.

Services

NGTL submitted that a total workforce of between 400 and 500 workers will be required to construct the Pipeline, while approximately 15 workers will be required to construct each meter station. NGTL further submitted that peak requirements for personnel and services are anticipated during the summer and autumn of 2010. Local accommodations, including existing hotels, motels and recreation vehicle parks will be used to house construction workers.

To address concerns raised regarding the housing of construction workers for the Project, NGTL contacted the City of Dawson Creek to discuss anticipated demands for local accommodation. In addition, NGTL committed to filing a Workforce Accommodation Plan with the Board, and to making the plan available to the communities where workers would be accommodated. NGTL further committed to providing the affected municipalities with a Manpower Loading Chart to help prepare for the Project.

Infrastructure

NGTL submitted that traffic on highways as well as local and municipal roads used to access the proposed Project is likely to increase during construction. NGTL further submitted that traffic patterns and movements are also likely to be altered.

NGTL noted that some concerns about the increases in traffic volume were initially expressed by affected municipalities in the Project area, including the Town of Pouce Coupe. In order to address any concerns, and to mitigate potential effects of the Project on traffic and roadways, NGTL stated that it will ensure that appropriate traffic management measures are in place. NGTL also committed to providing local officials with a construction schedule, and to working with officials in the area to determine whether further mitigation is required. With respect to the Town of Pouce Coupe, NGTL committed to additional consultation prior to and during project construction.

Views of the Board

The Board is satisfied that NGTL has identified and considered all the socio-economic aspects of the Project and has proposed suitable mitigation.

The Board notes the positive economic effects described for the Project, and supports NGTL's intention to provide, where possible, opportunities for local employment and economic participation in the Project, including opportunities for local businesses and contractors.

The Board notes NGTLs' submission of plans to address the Project's socio-economic impacts, and its commitment to ongoing consultation with affected communities. In particular, the Board notes NGTL's commitment for the submission of a Workforce Accommodation Plan, and its commitment to continued consultation with affected communities concerning traffic management.

In light of the measures outlined in NGTL's Application, subsequent filings and the above-noted Workforce Accommodation Plan, the Board finds that the Project's impacts on infrastructure and services would be adequately addressed. The Board also finds that the proposed Project would provide benefits to local, regional and provincial economies and that any adverse socio-economic impacts of the Project would be adequately addressed.

Chapter 9

Toll Principles and Methodology

Views of NGTL

NGTL stated that it was not seeking a decision of the Board in the GH-1-2009 proceeding regarding a toll methodology applicable to the applied-for facilities and that it would seek such approval through a separate Part IV application. Nevertheless, the Company stated that it proposes to provide service on the Project under the terms and conditions established in the Alberta System Tariff and to establish rates for service on a rolled-in basis in accordance with the governing Alberta System rate design methodology.

NGTL stated that the execution of a Project and Expenditure Agreement is an expression of commitment to the Project by the five subscribing shippers and confirmed that it expects to proceed with construction independent of the receipt of associated toll and tariff authorization.

Views of the Board

The Board notes that NGTL has not sought approval of a toll methodology that would be applicable to the applied-for facilities. Accordingly, the Board is not issuing any decision regarding toll methodology, and approval of the Project should not be interpreted as an endorsement by the Board of the proposed rolled-in toll methodology.

The Board reminds NGTL that toll and tariff provisions applicable to the Project must be approved by the Board prior to the Project being placed in service.

Chapter 10

Conclusion on Public Interest and Public Convenience and Necessity

In reaching its determination under section 52, Part III of the NEB Act on NGTL's Application for a Certificate to construct and operate the Groundbirch Pipeline, the Board has carefully considered the evidence and submissions made by all participants to the GH-1-2009 proceeding. The Board's conclusions on individual matters which fall within the scope of section 52 are contained in the preceding chapters.

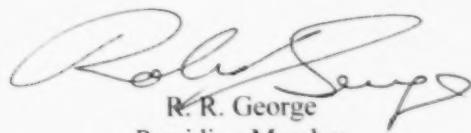
Based on all the evidence presented, the Board is satisfied that the Groundbirch Pipeline and associated facilities are, and will be, required by the present and future public convenience and necessity and, therefore, finds that approval of the Project is in the public interest.

Chapter 11

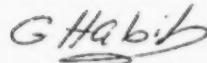
Disposition

The foregoing constitutes our Reasons for Decision in respect of the Application considered by the Board in the GH-1-2009 proceeding.

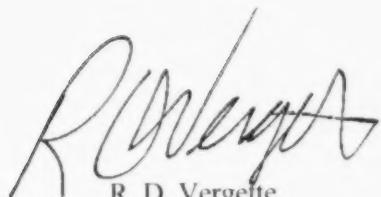
Having made its determination under the CEA Act, the Board approves NOVA Gas Transmission Ltd.'s Application, pursuant to section 52 of the NEB Act, and will recommend to the Governor in Council that a Certificate be issued, subject to the Certificate conditions set out in Appendix II.



R. R. George
Presiding Member



G. A. Habib
Member



R. D. Vergette
Member

Calgary, Alberta
March 2010

Appendix I

List of Issues

The Board has identified but does not limit itself to the following issues for discussion in the proceeding:

1. The need for the proposed facilities.
2. The economic feasibility of the proposed facilities.
3. The potential commercial impacts of the proposed project.
4. The potential environmental and socio-economic effects of the proposed facilities, including those to be considered under the *Canadian Environmental Assessment Act*.
5. The appropriateness of the general route and land requirements for the Pipeline.
6. The method of toll and tariff regulation.
7. The suitability of the design of the proposed facilities.
8. The terms and conditions to be included in any approval the Board may issue.
9. Potential impacts of the project on Aboriginal interests.
10. Potential impacts of the project on landowners and land use.

Appendix II

Certificate Conditions

In these conditions, the expression "commencement of construction" includes the clearing of vegetation, ground breaking and other forms of RoW preparation that may have an effect on the environment, but does not include activities associated with normal survey operations. Where any condition requires a filing with the Board "for approval" prior to commencement of a specified activity, that activity shall not be commenced until the approval is issued.

General

1. NGTL shall comply with all of the conditions contained in this Certificate unless the Board otherwise directs.
2. NGTL shall cause the approved Project to be designed, located, constructed, installed, and operated in accordance with the specifications, standards and other information referred to in its Application or as otherwise agreed to during questioning or in its related submissions.
3. NGTL shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendations and procedures for the protection of the environment included in or referred to in its Application or as otherwise agreed to during questioning or in its related submissions.

Prior to construction:

4. Where NGTL cannot avoid conducting activities within the migratory bird nesting period (between 1 May and 31 July) and preclearing or premowing activities have not been completed prior to 1 May, NGTL shall:
 - a) retain a qualified avian biologist to carry out a bird survey to identify any breeding birds and their nests prior to the commencement of construction activities in the migratory bird nesting period;
 - b) file for approval by the Board the methodology for the survey and confirmation that EC has reviewed and commented on the proposed methodology at least 45 days prior to commencement of such construction activities;
 - c) file the results of the survey with the Board; and
 - d) file for approval by the Board at least 14 days prior to the commencement of construction activities any mitigation strategies developed in consultation with EC and the appropriate provincial government bodies to protect any birds protected under federal or provincial legislation and their nests and a contingency plan for birds or nests found following completion of the survey referred to in a).

5. No later than the filing of the PPBoR for the Project pursuant to section 33 of the NEB Act, NGTL shall file with the Board and serve on DFN:
 - a) its view regarding the practicality of habitat restoration as a means of further mitigation of impacts of the Project on the traditional use of Crown lands;
 - b) preliminary information regarding the existence of candidate lands; and
 - c) a summary of consultation with DFN regarding these matters.
6. With the filing of the PPBoR for the Project pursuant to section 33 of the NEB Act, NGTL shall file a description of any proposed detailed route alignment that extends beyond 50 metres from the centerline of the applied-for general route. Such description shall include:
 - a) a map/environmental alignment sheet at an appropriate scale, clearly depicting the general route, and the proposed detailed route alignment;
 - b) the results of public and aboriginal consultation, and the status of land acquisition (where appropriate);
 - c) an environmental issues list identifying all relevant effects of the re-route on the environment (e.g., soils, vegetation, wildlife, hydrology and archaeological information); and
 - d) the associated mitigation measures to render those environmental effects insignificant and, in the event that measures, other than those adduced during the GH-1-2009 proceeding, are proposed, an analysis supporting the use of such measures.
7. With the filing of the PPBoR, NGTL shall submit to the Board, and provide copies to DFN and HLFN, an update on consultation activities undertaken with DFN and HLFN in respect of the potential for detailed route alignment that would further reduce impacts on the traditional use of Crown lands by DFN and HLFN.
8. NGTL shall, for audit purposes, create and maintain records to chronologically track landowner complaints or concerns related to the Project. The records shall include:
 - a) the date the complaint or concern was received from the landowner;
 - b) how the complaint or concern was received (e.g. telephone, mail, email or meeting);
 - c) detailed description of complaint or concern;
 - d) subsequent dates of all telephone calls, visits, correspondence, and site monitoring/inspections, reports, etc.;
 - e) updated contact information for all parties involved in the complaint or concern;
 - f) date of resolution of complaint or concern; and

- g) if no resolution, further actions to be taken (if any).

9. NGTL shall file for approval an updated joining program, pursuant to section 16 of the *OPR-99*, at least 45 days prior to the commencement of welding. The joining program shall include, as a minimum, the following:

- a) a copy of the welding procedure specifications (WPS) for all welding, which addresses, at a minimum, the guidance notes provided in section 16 of the *OPR-99*; and
- b) a copy of the procedure qualification records for each WPS.

10. NGTL shall file for approval at least 30 days prior to the commencement of construction:

- a) the weld defect acceptance criteria for all welding; and
- b) the non-destructive examination (NDE) procedures for each NDE technique that NGTL intends to use on this project for each type of weld.

11. NGTL shall file with the Board and participating Aboriginal groups, at least 60 days prior to the commencement of construction, a final TLU report for the Project. In addition to the report contents outlined in NGTL's Status Report on Traditional Land Use Study filed 12 November 2009, the report shall also include:

- a) a description of any additional TLU issues or concerns raised in NGTL's further discussions with participating Aboriginal groups, including NGTL's proposed wrap-up and mitigation meetings, where these have been feasible;
- b) a description of any additional mitigation measures identified through the discussions and meetings noted in a) above; and
- c) a summary of any outstanding TLU issues or concerns raised by potentially affected Aboriginal groups, including a description of how these concerns or issues have been or will be addressed by NGTL.

12. NGTL shall file with the Board for approval, at least 60 days prior to the commencement of construction, an updated Project-specific EPP. The EPP shall describe all environmental and socio-economic protection procedures, and mitigation and monitoring commitments, as set out in the Application or as otherwise agreed to during questioning, in its related submissions or through consultations with other government agencies. The EPP shall describe the criteria for the implementation of all procedures and measures, and shall use clear and unambiguous language that confirms NGTL's intention to implement all of its commitments. Construction shall not commence until NGTL has received approval of its EPP from the Board. The EPP shall address, but is not limited to, the following elements:

- a) environmental procedures including site-specific plans, criteria for implementation of these procedures, mitigation measures and monitoring applicable to all project phases, and activities;
- b) a reclamation plan which includes a description of the condition to which the applicant intends to reclaim and maintain the right-of-way once the construction has been completed, and a description of measurable goals for reclamation; and
- c) evidence of consultation with relevant regulatory authorities on the proposed mitigation and any outstanding concerns and plans to address these.

13. NGTL shall:

- a) file with the Board and post on its Company website, at least 45 days before the planned start of construction, a table listing all commitments made by NGTL during the GH-1-2009 proceeding related to the Project, conditions imposed by the NEB and the deadlines associated with each; and
- b) update the status of the commitments in a) at least on a monthly basis throughout the construction of the Project, and maintain the updated table on its Company website; and
- c) update the status of commitments on an annual basis unless otherwise specified.

14. NGTL shall file with the Board at least 45 days prior to the commencement of construction a project security management plan pursuant to NEB PRC 2006-01 Pipeline Security Management Program.

15. NGTL shall file with the Board, at least 30 days prior to the commencement of construction:

- a) copies of correspondence from the BC Archaeology Branch and from the Alberta Department of Culture and Community Spirit confirming that NGTL has obtained all archaeological and heritage resources permits and clearances; and
- b) a statement on how NGTL intends to implement any recommendations contained in a).

16. NGTL shall file with the Board, and provide a copy to the SPLA, an update on the outcome of consultations with the SPLA within the following times specified.

- a) at least 30 days prior to the commencement of construction; and
- b) six months after the commencement of operations.

17. NGTL shall file with the Board, and provide a copy to DFN, 30 days prior to the commencement of construction on Crown lands, a report on its consultation activities

with DFN regarding the selection and placement of proposed mitigation measures for wildlife on Crown lands.

18. NGTL shall conduct all necessary pre-construction environmental surveys for temporary access roads and shall file with the Board for approval, at least 30 days prior to the commencement of construction:
 - a) the methodology for conducting the surveys;
 - b) the results of the surveys;
 - c) a detailed mitigation plan for each species of concern and sensitive habitat affected by construction activity; and
 - d) confirmation that the mitigation strategies shall be implemented on the Project.
19. NGTL shall file an updated construction safety manual at least 30 days prior to the commencement of construction.
20. NGTL shall file with the Board at least 14 days prior to the commencement of construction:
 - a) confirmation that a qualified soils specialist shall be on call during construction activity; and
 - b) the qualifications, role, responsibilities, decision making authority and reporting structure for the soil specialist position.

During Construction:

21. NGTL shall file a final Fish Compensation Plan with DFO and TC, and provide a copy to the Board, at least 14 days prior to the start of the HDD crossings. NGTL shall:
 - a) notify the Board upon successful completion of the HDD or HD bored watercourse crossings of the Pouce Coupe and Kiskatinaw Rivers; or
 - b) notify the Board in writing of any change from the proposed HDD watercourse crossing methods and the reasons for that change prior to implementation; and
 - c) file copies of all correspondence from regulatory authorities related to the changed crossing method.

Prior to Submission of First Application for Leave to Open:

22. NGTL shall file with the Board for approval, at least 60 days prior to commencement of operations, a detailed weed management plan. This is to describe NGTL's long term weed monitoring and control procedures, decision criteria and accountabilities for the operations phase of the facilities as well as for the immediate post-construction reclamation period.

23. NGTL shall file with the Board, at least 30 days prior to submission of the Leave to Open application, its Emergency Preparedness and Response manual(s).

Post Construction:

24. On or before the 31 of January after each of the first, third, and fifth complete growing seasons following commencement of the operation of the Project, NGTL shall file with the Board a post-construction environmental monitoring report that:

- describes the methodology used for monitoring, the criteria established for evaluating success and the results found;
- assesses the effectiveness of the mitigation measures applied during construction against the criteria for success;
- identifies any deviations from plans and alternate mitigation applied as approved by the Board;
- identifies locations on a map or diagram where corrective action was taken during construction and the current status of corrective actions; and
- provides proposed measures and the schedule NGTL shall implement to address any unresolved concerns.

25. NGTL, in the first growing season after construction, shall:

- ensure that measures are installed so as to limit the line-of-sight along the forested portion of the right-of-way to less than 1 km;
- file with the Board copies of all correspondence demonstrating consultation with Alberta Sustainable Resource Development in the design, composition, and location of each visual barrier; and
- maintain monitoring reports detailing the status of the line-of-sight barriers and identifying any deviations from plans and alternate mitigation applied as approved by the Board, for auditing purposes, for the service life of the project.

26. NGTL shall consult with EC on all wetlands where wetland function has not been fully restored at the close of the five-year PCM program, and undertake further restoration or compensation, as recommended by EC or provide a rationale for why NGTL will not abide by EC's recommendation. NGTL shall file with the Board copies of all correspondence demonstrating consultation with EC on any potential wetland compensation as part of the five year PCM report.

27. Within 30 days of the date that the approved Project is placed in service, or of the date that the last Order was issued for Leave to Open, whichever is earlier, NGTL shall file with the Board a confirmation, by an officer of the Company, that the approved Project was completed and constructed in compliance with all applicable conditions in this

Certificate. If compliance with any of these conditions cannot be confirmed, the officer of the Company shall file with the Board details as to why compliance cannot be confirmed. The filing required by this condition shall include a statement confirming that the signatory to the filing is an officer of the Company.

Expiration of Certificate:

28. Unless the Board otherwise directs prior to 31 December 2011 this Certificate shall expire on 31 December 2011 unless construction in respect of the Project has commenced by that date.

Appendix III

NEB Ruling on the Motion by NGTL to File Certain Information in Confidence

National Energy
Board



Office national
de l'énergie

File OF-Fac-Gas-N081-2009-01 01
25 September 2009

Mr. Mark Manning
Regulatory Project Manager
TransCanada PipeLines Limited
450 1st Street S W
Calgary, AB T2P 5H1
Facsimile 403-920-2347

Mr. Joel Forrest
Senior Legal Counsel
TransCanada PipeLines Limited
450 1st Street S W
Calgary, AB T2P 5H1
Facsimile 403-920-2354

Mr. Shawn H T. Denstedt
Osler, Hoskin & Harcourt
Suite 2500, TransCanada Tower
450 1st Street S W
Calgary, AB T2P 5H1
Facsimile 403-260-6924

Dear Sirs:

NOVA Gas Transmission Ltd. (NGTL)
Groundbirch Pipeline Project Application of 30 April 2009
Notice of Motion to file certain documents in confidence
pursuant to section 16.1 of the National Energy Board Act

By Notice of Motion dated 27 August 2009, NGTL applied to the National Energy Board (NEB or Board) for an order pursuant to section 16.1 of the *National Energy Board Act* (NEB Act) to file, in confidence, certain documents supporting NGTL's responses to NEB Information Requests 1.26(a) and 1.26(c).

In its Notice of Motion, NGTL requested that the following documents be filed with the Board on a confidential basis:

1. TED-QMS-CHA QMS Charter for Pipeline Projects;
2. TED-QMS-MAN Quality Management System Manual for Pipeline Projects;
3. TEP-QMS-PROC Quality Management System Procedures for Pipeline Projects;
4. TEL-QMS-APP Appendix 1 – Document List for Pipeline Projects;
5. TransCanada report – Pipeline Projects Quality Management System 2008 Internal Audit Report (EDMS # 005321947);

.../2

444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444, Septième Avenue S -O.
Calgary (Alberta) T2P 0X8

Canada

Telephone/Téléphone : 403-292-4800
Facsimile/Télécopieur : 403-292-5503
<http://www.neb-one.gc.ca>
Telephone/Téléphone : 1-800-839-1265
Facsimile/Télécopieur : 1-877-288-8803

6. Det Norske Veritas Report – Assessment of the Alternative Integrity Validation of the NGTL Buffalo Creek West Pipeline Construction Project – Report No. 85490501-1 Rev. 1; and
7. Det Norkse Veritas Report – Assessment of the Alternative Integrity Validation of the NGTL Buffalo Creek West Pipeline Construction Project Phase 2 – Compliance Verification – Report No. 85490501-2.

(the Supporting Information)

On 9 September 2009, the Board requested comments from parties in respect of NGTL's Notice of Motion. The only comment received did not object to the request. The Board received no filed opposition to the NGTL Notice of Motion.

The Board is of the view that the Supporting Information has been developed by TransCanada and NGTL through the investment of significant time and resources and that its disclosure would provide valuable commercial information to competitors of TransCanada and NGTL.

Accordingly, the Board finds that disclosure of the Supporting Information could reasonably be expected to result in a material loss to NGTL or gain to others, or could reasonably be expected to prejudice NGTL's competitive position. Further, the Board finds that the Supporting Information is commercial or technical information that has consistently been treated as confidential by NGTL. The Board notes that all other evidence supporting NGTL's proposed use of Alternative Integrity Verification (AIV) has been filed publicly and can be tested by all parties in the GH-1-2009 proceeding. In light of the confidential nature of the Supporting Information, the absence of objection from any GH-1-2009 hearing participant or other person to the confidentiality request of NGTL, and the public filing of all other evidence of NGTL in support of its AIV request, the Board finds that in the context of this proceeding, NGTL's interest in confidentiality of the Supporting Information outweighs the public interest in disclosure. Accordingly, the Board will permit the filing of the Supporting Information with the Board on a confidential basis.

The Board has issued the attached order allowing for the filing of the Supporting Information in confidence with the Board, pursuant to section 16.1 of the NEB Act. The Supporting Information will not be made a part of the public record or otherwise disclosed. However, the Board intends to fully examine the Supporting Information as part of its consideration of NGTL's AIV request, and further notes that it may make reference to the Supporting Information during the GH-1-2009 proceeding, for the purposes of oral and written questioning.

Yours truly,



Anne-Marie Erickson
Acting Secretary of the Board



ORDER MO-14-2009

IN THE MATTER OF the *National Energy Board Act*
(the Act) and the regulations made thereunder;

IN THE MATTER OF an application by NOVA Gas
Transmission Ltd. (NGTL) for an order pursuant to
section 16.1 of the Act filed with the Board under File
OF-Fac-Gas-N081-2009-01 01.

BEFORE the Board on 24 September 2009.

WHEREAS NGTL has applied for an order pursuant to section 16.1 of the Act to file, in confidence with the National Energy Board (NEB or Board), certain documents which contain information supporting NGTL's responses to NEB Information Requests 1.26(a) and 1.26(c);

AND WHEREAS the Board solicited comments in respect of this confidentiality request from all parties to the GH-1-2009 proceeding;

AND WHEREAS the Board received no filed opposition to the confidentiality request;

AND WHEREAS the Board has determined that the information, if disclosed, could reasonably be expected to result in a material loss to NGTL or gain to others, or could reasonably be expected to prejudice NGTL's competitive position;

AND WHEREAS the information is commercial or technical information that has consistently been treated as confidential information;

AND WHEREAS the Board considers that in the context of this proceeding NGTL's interest in confidentiality outweighs the public interest in disclosure of the information;

IT IS ORDERED THAT the following information shall be filed in confidence with the Board:

1. TED-QMS-CHA QMS Charter for Pipeline Projects;
2. TED-QMS-MAN Quality Management System Manual for Pipeline Projects;
3. TEP-QMS-PROC Quality Management System Procedures for Pipeline Projects;
4. TEL-QMS-APP Appendix 1 – Document List for Pipeline Projects,

.../2

Canada

5. TransCanada Report – Pipeline Projects Quality Management System 2008 Internal Audit Report (EDMS # 005321947);
6. Det Norske Veritas Report – Assessment of the Alternative Integrity Validation of the NGTL Buffalo Creek West Pipeline Construction Project – Report No. 85490501-1 Rev. 1; and
7. Det Norkse Veritas Report – Assessment of the Alternative Integrity Validation of the NGTL Buffalo Creek West Pipeline Construction Project Phase 2 – Compliance Verification – Report No. 85490501-2.

(the Supporting Information)

IT IS FURTHER ORDERED THAT the Supporting Information shall not be made part of the public record or otherwise disclosed, subject to references to the Supporting Information during the GH-1-2009 proceeding, for the purposes of oral and written questioning.

NATIONAL ENERGY BOARD



Anne-Marie Erickson
Acting Secretary of the Board

MO-14-2009

Appendix IV

NEB Ruling on the NGTL Request to vary NEB Order MO-14-2009

National Energy
Board



Office national
de l'énergie

File OF-Fac-Gas-N081-2009-01 01
3 November 2009

Mr. Mark Manning
Regulatory Project Manager
TransCanada PipeLines Limited
450 1st Street S W
Calgary, AB T2P 5H1
Facsimile 403-920-2347

Mr. Joel Forrest
Senior Legal Counsel
TransCanada PipeLines Limited
450 1st Street S W
Calgary, AB T2P 5H1
Facsimile 403-920-2354

Mr. Shawn H.T. Denstedt
Osler, Hoskin & Harcourt
Suite 2500, TransCanada Tower
450 1st Street S W
Calgary, AB T2P 5H1
Facsimile 403-260-7024

Dear Sirs:

NOVA Gas Transmission Ltd. (NGTL)
Groundbirch Pipeline Project Application of 30 April 2009
Hearing Order GH-1-2009
Request to vary National Energy Board Order MO-14-2009

By letter dated 30 October 2009, NGTL applied to the National Energy Board to vary NEB Order MO-14-2009 to extend confidential treatment to the document TES-PROJ-AIV, which it proposes to file in support of its response to NEB Information Request 4.7(a.2). Order MO-14-2009 had previously been issued by the Board pursuant to section 16.1 of the *National Energy Board Act* (NEB Act) on 24 September 2009, permitting NGTL to file, in confidence, certain documents supporting NGTL's responses to NEB Information Requests 1.26(a) and 1.26(c) (the Supporting Information).

On 30 October 2009, the Board requested comments from parties in respect of NGTL's request to vary Order MO-14-2009. The Board received no filed opposition to the NGTL request.

The Board finds that the document TES-PROJ-AIV is closely related to the Supporting Information, as it contains revisions to the Alternative Integrity Validation (AIV) process. The Board is also of the view that document TES-PROJ-AIV has been developed by TransCanada PipeLines Limited (TransCanada) and NGTL through the investment of significant time and

/2

444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S -O
Calgary (Alberta) T2P 0X8

Canada

Telephone/Téléphone 403-292-4800
Facsimile/Télécopieur 403-292-5503
<http://www.neb-one.gc.ca>

Telephone/Téléphone 1-800-899-1265
Facsimile/Télécopieur 1-877-288-8803

resources and that its disclosure would provide valuable commercial information to competitors of TransCanada and NGTL. The Board is further of the view that disclosure of the document TES-PROJ-AIV could reasonably be expected to result in a material loss to NGTL or gain to others, or could reasonably be expected to prejudice NGTL's competitive position. Finally, the Board finds that the document TES-PROJ-AIV is commercial or technical information that has consistently been treated as confidential by NGTL.

In light of the close relation between the document TES-PROJ-AIV and the Supporting Information, the confidential nature of the document TES-PROJ-AIV and the absence of objection from any GH-1-2009 hearing participant or other person to the request of NGTL, the Board finds that in the context of this proceeding, NGTL's interest in confidentiality of the document TES-PROJ-AIV outweighs the public interest in disclosure. Accordingly, the Board has decided to permit the filing of the document TES-PROJ-AIV with the Board on a confidential basis.

The Board is also of the view that the document TES-PROJ-AIV should be accorded the same treatment as the Supporting Information. In order for the same terms and conditions set out in Order MO-14-2009 to apply, the Board has determined that an amendment to the Order is required to change the definition of "Supporting Information" to include the document TES-PROJ-AIV.

Accordingly, Amending Order AO-1-MO-14-2009 is attached. The document TES-PROJ-AIV will not be made a part of the public record or otherwise disclosed. However, the Board intends to fully examine the document TES-PROJ-AIV, as well as the other Supporting Information, as part of its consideration of NGTL's AIV request, and further notes that it may make reference to the document TES-PROJ-AIV, as well as the other Supporting Information, during the GH-1-2009 proceeding, for the purposes of oral and written questioning.

Yours truly,



Anne-Marie Erickson
Acting Secretary of the Board

Attachment



ORDER AO-1-MO-14-2009

IN THE MATTER OF the *National Energy Board Act*
(the Act) and the regulations made thereunder;

IN THE MATTER OF an application by NOVA Gas
Transmission Ltd. (NGTL) for an Order pursuant to
section 16.1 of the Act filed with the National Energy
Board under File OF-Fac-Gas-N081-2009-01 01.

BEFORE the National Energy Board on 3 November 2009

WHEREAS the Board ruled on 24 September 2009 that certain documents containing
information supporting NGTL's responses to NEB Information Requests 1.26(a) and 1.26(c)
(the Supporting Information) were entitled to confidential treatment pursuant to section 16.1 of
the Act;

AND WHEREAS the Board issued Order MO-14-2009 on 24 September 2009, providing that
the Supporting Information be filed in confidence with the Board, and that the Supporting
Information shall not be made part of the public record or otherwise disclosed, subject to
references to the Supporting Information during the GH-1-2009 proceeding, for the purposes of
oral and written questioning;

AND WHEREAS NGTL applied on 30 October 2009 to vary Order MO-14-2009 in order to
extend confidential treatment to a document it proposes to file in support of its response to NEB
Information Request 4.7(a.2);

AND WHEREAS the Board solicited comments in respect of NGTL's request from all parties
to the GH-1-2009 proceeding and received no filed opposition to NGTL's request;

AND WHEREAS the Board has determined that the document, if disclosed, could reasonably
be expected to result in a material loss to NGTL or gain to others, or could reasonably be
expected to prejudice NGTL's competitive position;

AND WHEREAS the information is commercial or technical information that has consistently
been treated as confidential information;

AND WHEREAS the Board considers that in the context of this proceeding NGTL's interest in
confidentiality outweighs the public interest in disclosure of the information.

.../2

Canada

- 2 -

IT IS ORDERED THAT the term "Supporting Information" as defined in Order MO-14-2009 is amended to include the document TES-PROJ-AIV.

NATIONAL ENERGY BOARD



Anne-Marie Erickson
Acting Secretary of the Board

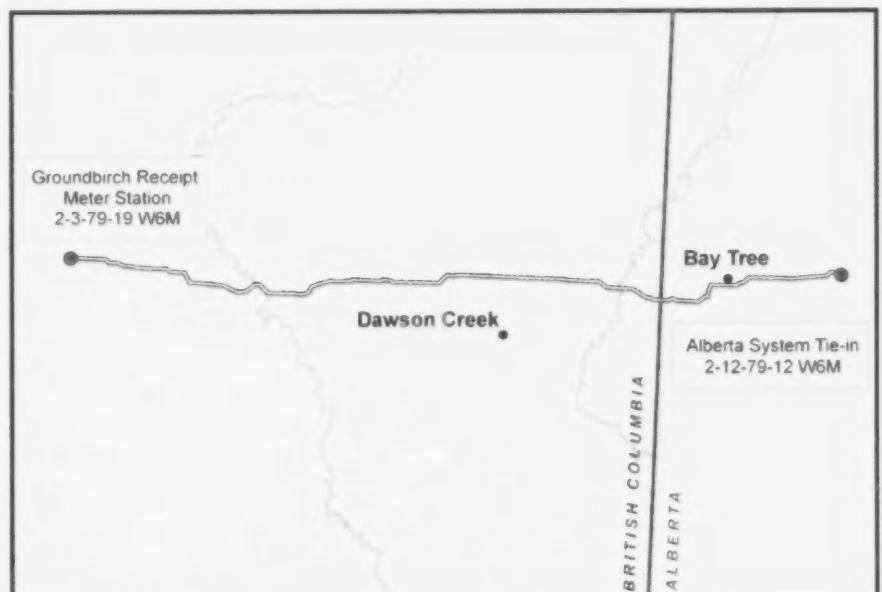
AO-1-MO-14-2009

Appendix V

Environmental Screening Report

ENVIRONMENTAL SCREENING REPORT Pursuant to the *Canadian Environmental Assessment Act* (CEA Act)

Groundbirch Pipeline Project

Applicant Name:	NOVA Gas Transmission Ltd.		
Application Date:	30 April 2009	CEA Act Registration Date:	15 January 2009
National Energy Board File Number:	OF-Fac-Gas-N081-2009-01 01	Canadian Environmental Assessment Registry Number:	09-01-44831
CEA Act Law List Trigger:	Section 52 of the <i>National Energy Board Act</i>	CEA Act Determination Date:	25 February 2010
 <p>The map shows the Groundbirch Pipeline's path from Dawson Creek in British Columbia to Bay Tree in Alberta. Key locations marked include 'Groundbirch Receipt Meter Station 2-3-79-19 W6M' in BC and 'Alberta System Tie-in 2-12-79-12 W6M' in Alberta. The pipeline crosses the 'BRITISH COLUMBIA / ALBERTA' border. A label 'Dawson Creek' is placed near the BC end of the pipeline. The pipeline is labeled 'Groundbirch Pipeline' at the bottom of the map area.</p>			

Canada

SUMMARY

This report represents an Environmental Screening Report (ESR) under the *Canadian Environmental Assessment Act* (CEA Act) for the NOVA Gas Transmission Ltd. (NGTL) proposed Groundbirch Pipeline Project (the Project). On 30 April 2009, NGTL applied to the National Energy Board (Board or NEB) for authorization to construct and operate the Project, a proposed extension of the TransCanada Alberta System to the Groundbirch area of British Columbia (BC), with approximately 69.5 kilometres (km) of new non-contiguous right-of-way and a capability to transport 46.9×10^6 cubic metres-per-day of natural gas.

The Project would involve the construction and operation of approximately 77 km of new 914 millimetre outside diameter natural gas pipeline and related facilities, including three meter stations and several valve sites. The Project would consist of approximately 58.5 km of pipeline in BC and 18.5 km in Alberta. Some temporary infrastructure would be required for construction and some new access roads would be needed for pipeline operations. The Project would require the crossing of several watercourses and drainages. Construction is proposed to begin in July of 2010. The proposed in-service date for the Project is November 2010.

The NEB is the Federal Environmental Assessment Coordinator for this Project. In this role the NEB coordinates the involvement of federal departments with an interest in the Project. Transport Canada and Fisheries and Oceans Canada have declared themselves Responsible Authorities (RA) while Natural Resources Canada, Environment Canada and Health Canada have identified themselves as Federal Authorities (FA) in possession of expert advice.

This ESR was prepared as part of the NEB's responsibilities under the CEA Act and incorporates information provided by the applicant, NGTL, federal authorities, landowners, aboriginal groups, other interested parties and the public. The analysis in this ESR is based on the evidence on the record for the public hearing process held with respect to the Project, the full documentation of which can be found at the following internet hyperlink: <https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=555680&objAction=browse&sort=-name>.

Comments received on the draft ESR were considered by the Board in its preparation of the final ESR. The ESR was issued by the Board along with its Reasons for Decision in respect of the Project. The ESR will be used by RAs to the extent possible in making their environmental assessment determinations during the course of the Project.

As detailed in the ESR, a number of potential adverse environmental effects of the Project, both bio-physical and socio-economic, were identified. The main areas of public concern focused on soil productivity and habitat fragmentation. The NEB is of the view that, with the implementation of NGTL's proposed environmental protection procedures and mitigation measures, the NEB's detailed route approval processes and conditioning authority, and the NEB's recommendations, the Project is not likely to cause significant adverse environmental effects.

TABLE OF CONTENTS

1.0	INTRODUCTION.....	73
1.1	Project Overview	73
1.2	Rationale for the Project	73
1.3	Baseline Information and Sources	74
2.0	ENVIRONMENTAL ASSESSMENT PROCESS.....	74
2.1	Government Participation in the Environmental Assessment (EA) Process	74
2.2	Opportunities for Public Input into the EA.....	75
2.2.1	Submissions to the Board.....	75
2.2.2	Scope of EA	75
2.2.3	NEB Hearing.....	75
2.2.4	Draft Environmental Assessment Report.....	75
3.0	SCOPE OF THE ENVIRONMENTAL ASSESSMENT	76
4.0	DESCRIPTION OF THE PROJECT	76
5.0	DESCRIPTION OF THE ENVIRONMENT	77
6.0	COMMENTS FROM THE PUBLIC.....	81
6.1	Project-Related Issues Raised through Consultation Conducted by the NEB.....	81
6.2	Project-Related Issues Raised through Consultation Conducted by NGTL	82
6.3	Comments Received by the NEB on the Draft ESR.....	82
7.0	THE NEB'S EA METHODOLOGY.....	82
8.0	ENVIRONMENTAL EFFECTS ANALYSIS.....	84
8.1	Routing of the Pipeline	84
8.2	Project - Environment Interactions	85
8.3	Standard Mitigation	90
8.4	Detailed Analysis of Potential Adverse Environmental Effects	90
8.4.1	Soil and Soil Productivity	90
8.4.2	Vegetation	92
8.4.3	Water and Water Quality	93
8.4.4	Fish and Fish Habitat	94
8.4.5	Wetlands	95
8.4.6	Wildlife and Wildlife Habitat	95
8.4.7	Species at Risk (listed on Schedule 1 of the SARA)	96
8.4.8	Traditional Aboriginal Land and Resource Use	97
8.5	Cumulative Effects Assessment.....	99
8.6	Follow-Up Program	102
8.7	Recommendations.....	102
9.0	THE NEB'S CONCLUSION	106
10.0	NEB CONTACT	106
APPENDIX 1	COMMENTS ON THE DRAFT ESR.....	107

LIST OF ABBREVIATIONS AND ACRONYMS

AB	Alberta
BC	British Columbia
Board or NEB	National Energy Board
CEA Act	<i>Canadian Environmental Assessment Act</i>
CEA Registry	Canadian Environmental Assessment Registry
CFHCP	Conceptual Fish Habitat Compensation Plan
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DFN	Duncan's First Nation
DFO	Fisheries and Oceans Canada
EA	environmental assessment
EAE	Enhanced Aboriginal Engagement
EC	Environment Canada
EI	Environmental Inspector
EPP	Environmental Protection Plan
ESA	NOVA Gas Transmission Ltd.'s Environmental and Socio-Economic Assessment
ESR	environmental screening report, pursuant to the <i>Canadian Environmental Assessment Act</i>
FA	Federal Authority, as defined in subsection 2(1) of the <i>Canadian Environmental Assessment Act</i>
FCN	Federal Coordination Notification
Federal Coordination Regulations	the <i>Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements</i> made pursuant to the CEA Act
HADD	harmful alteration, disruption or destruction
HC	Health Canada
HDD	horizontal directional drill
HLFN	Horse Lake First Nation
km	kilometre
KP	kilometre post
LSA	Local Study Area
LSD	Legal Site Description
m	metre
m^3/d	metres cubed per day
mm	millimetre
MPMO	Major Projects Management Office
NEB Act	<i>National Energy Board Act</i>
NGTL	NOVA Gas Transmission Ltd.
NPS	Nominal Pipe Size

OD	outside diameter
PCM	post-construction monitoring
PDA	Project Development Area
the Pipeline	the approximately 77 kilometre-long, 914 millimetre outside diameter natural gas pipeline, proposed as part of the Groundbirch Pipeline Project
PPBoR	plan, profile and book of reference
the Project	the proposed Groundbirch Pipeline Project
RA	Responsible Authority, as defined in subsection 2(1) of the <i>Canadian Environmental Assessment Act</i>
RoW	right-of-way
RSA	Regional Study Area
SARA	<i>Species At Risk Act</i>
SFN	Saulteau First Nation
SPLA	South Peace Landowners Association
TransCanada	TransCanada PipeLines Limited
TC	Transport Canada
TLE	treaty land entitlement
TLU	Traditional Land Use

1.0 INTRODUCTION

The application for the Groundbirch Pipeline Project (the Project) was filed pursuant to section 52 of the *National Energy Board Act* (NEB Act) and, thus, triggers the *Canadian Environmental Assessment Act* (CEA Act) *Law List Regulations*, thereby requiring the preparation of this environmental screening report (ESR).

1.1 Project Overview

The Project is an extension of the TransCanada Alberta System¹ from the existing Gordondale Meter Station at Legal Site Description (LSD) 2-12-79-12 W6M in Alberta (AB) to a proposed meter station (the Groundbirch Receipt Meter Station) at LSD 2-3-79-19 W6M in northeastern British Columbia (BC), approximately 37 kilometres (km) northwest of Dawson Creek. NOVA Gas Transmission Ltd. (NGTL), a wholly owned subsidiary of TransCanada PipeLines Limited (TransCanada), is proposing to construct and operate a pipeline to transport natural gas between these two points (the Pipeline).

The Pipeline would be approximately 77 km in length and 914 millimetres (mm) in outside diameter (OD) [Nominal Pipe Size (NPS) 36]. Associated proposed facilities consist of the Groundbirch (LSD 2-3-79-19 W6M), Tremblay (LSD 8-27-78-17 W6M) and Tremblay No. 2 (LSD 8-27-78-17 W6M) Receipt Meter Stations. These will include custody transfer metering, communication and control systems, block valves and side valves, valves and blind flanges to accommodate the installation of launcher and receiver facilities for in-line inspection, cathodic protection for the facilities and associated miscellaneous works.

Approximately 69.5 km (53 km in BC and 16.5 km in AB) of the proposed Pipeline would require new non-contiguous right-of-way (RoW). A permanent 20 metre (m) RoW would be required with 19 m of temporary workspace, as required, in agricultural lands. Additional temporary workspace would be required on a site-specific basis at highway, road, pipeline and watercourse crossings and at other locations to accommodate pipeline construction activities. Some temporary infrastructure would be required for construction and some new access roads would be needed for pipeline operations. Pending regulatory approval, construction is scheduled to occur during the third and fourth quarter of 2010.

Section 4.0 provides a detailed description of the work associated with the Project.

1.2 Rationale for the Project

The purpose of the Project is to carry natural gas in a buried pipeline from the Groundbirch area of BC to an interconnection point with the existing TransCanada Alberta System. Gas producers in the Groundbirch area of BC have established and potential gas reserves which are not currently connected to market. The Project would enable area producers to connect their gas reserves to the TransCanada Alberta System and thereby, access markets in AB, elsewhere in Canada and in the United States. The extension of the TransCanada Alberta System to the Groundbirch area would also contribute to the overall economic development of the area. The

¹ TransCanada's Alberta System consists of approximately 23,700 km of pipeline. Gas is delivered to points within Alberta and to interconnections with other pipelines that transport natural gas to other provinces and the United States.

new source of natural gas supply from the area would help increase the long term utilization of the TransCanada Alberta System.

1.3 Baseline Information and Sources

The analysis for this ESR is based on information from the following sources:

- Project application, including the Environmental and Socio-economic Assessment (ESA);
- Supplementary filings to the Project application;
- Responses to information requests;
- Submissions from the public and interested parties; and
- Evidence submitted at the oral public hearing.

Filed information pertaining to the Project application can be found within 'Regulatory Documents' on the National Energy Board's (Board or NEB) website (www.neb-one.gc.ca). For more details on how to obtain documents, please contact the Acting Secretary of the NEB at the address specified in Section 10.0 of this report.

2.0 ENVIRONMENTAL ASSESSMENT PROCESS

2.1 Government Participation in the Environmental Assessment (EA) Process

On 28 November 2009, pursuant to section 5 of the CEA Act's *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements* (Federal Coordination Regulations), the NEB issued a Federal Coordination Notification (FCN) letter to identify the potential involvement of federal departments in the environmental assessment (EA) process. The responses are summarized below:

Table 1: Federal Government Involvement in the CEA Act Process

Federal Government Agency	Involvement	
	RA with a CEA Act Trigger(s)	FA in Possession of Expert Advice
NEB	NEB Act section 52	
Transport Canada (TC)	<i>Navigable Waters Protection Act</i> subsection 5(1)(3) NEB Act subsection 108(4)	
Fisheries and Oceans Canada (DFO)	<i>Fisheries Act</i> subsection 35(2)	
Environment Canada (EC)		Provided expert advice
Health Canada		Provided expert advice
Natural Resources Canada		In possession of expert advice

The FCN letter was also sent to provincial agencies in AB and BC. Neither province expressed interest in participating in the federal review.

Section 6.0 describes issues raised by government agencies.

2.2 Opportunities for Public Input into the EA

NEB Hearing Order GH-1-2009 was issued on 16 June 2009, describing the process and requirements of the oral public hearing for the Project. The NEB EA process allowed for a number of opportunities for the public, including Government Agencies and Aboriginal groups, to participate and provide input into the EA, either by providing comments on the scope of the EA and list of issues, filing a letter of comment, making an oral statement at the hearing or seeking Intervenor status. The Government Participant option was provided to Government Authorities to allow them to participate without becoming Intervenors.

2.2.1 Submissions to the Board

Throughout the course of the EA process, the Board received several submissions pertaining to Project-related EA matters. The areas of primary concern are listed within Section 6.1 of this ESR.

2.2.2 Scope of EA

In December 2008, the NEB sent a letter to RAs, FAs and interested provincial agencies inviting comments on the draft scope of the EA for the Project.

The scope of the EA was subsequently attached to the Hearing Order as Appendix V. As part of this process, the scope of the EA was also posted on the Canadian Environmental Assessment Registry (CEA Registry) on 25 June 2009. With these actions, the NEB once again solicited comments from RAs, FAs, provincial agencies and the public on the scope of the EA for the Project. The parties were provided with an opportunity to suggest an amendment or addition to the scope by filing their suggestion with the Board by 13 July 2009. No comments on the scoping document were received.

2.2.3 NEB Hearing

The oral public hearing for the Project, pursuant to Hearing Order GH-1-2009, was held in Dawson Creek from 17 to 19 November 2009.

2.2.4 Draft Environmental Assessment Report

On 13 January 2010, the NEB sent a letter to interested parties inviting comments on the draft ESR. Further, a notice for public comment on the draft ESR was posted on the CEA Registry. Appendix 1 of this ESR provides a summary of the key comments, some of which resulted in wording changes to the ESR. Explanations have been included for those comments that did not result in changes to the ESR.

3.0 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The scope of the EA (Scope) is composed of three parts:

1. Scope of the Project;
2. Factors to be Considered; and
3. Scope of the Factors to be Considered.

The Scope is determined by the RAs in consultation with the FAs and the public in accordance with the CEA Act and the Federal Coordination Regulations and provides detailed information on these three parts.

Section 4.0 of this ESR expands upon the “Scope of the Project”.

4.0 DESCRIPTION OF THE PROJECT

Table 2 provides information for each phase of the Project: construction, operations and abandonment.

Table 2: Details of the Project

Physical Work and/or Activity
<p><i>Construction Phase – Timeframe: Proposed start July 2010, pending regulatory approvals, and completed by fourth quarter of 2010.</i></p> <ul style="list-style-type: none">▪ Construction of approximately 77 km (approximately 18.5 km in AB and 58.6 km in BC) of new 914 mm OD (NPS 36) natural gas pipeline, of which approximately 7.5 km is contiguous with existing linear disturbances and 69.5 km is non-contiguous.▪ RoW width would generally be 39 m, consisting of approximately 20 m of permanent RoW and approximately 19 m of temporary work space in agricultural lands and 29 m in forested crown lands.▪ Construction of watercourse crossings including Pouce Coupe River, Kiskatinaw River, Fox Creek and Sergeant Creek.▪ Construction of three new meter stations in BC (Groundbirch Receipt at the west endpoint, as well as Tremblay Receipt and Tremblay No. 2 along the Pipeline).▪ The Project would also include site preparation (clearing, stripping, stockpiling, grading and trenching), pipe laying, backfilling, hydrostatic testing where required, and final reclamation.
<p><i>Operation Phase – Timeframe: Service life of the Project (40+ years)</i></p> <ul style="list-style-type: none">▪ Operational maintenance of the pipeline.▪ Equipment/vehicle operation.▪ Maintenance of access roads.▪ Vegetation control for non-native and noxious weed species.▪ Aerial pipeline patrols would be conducted to visually inspect for environmental and integrity issues.▪ In-service inspection tools would periodically inspect the pipeline.▪ Maintenance digs would be conducted in the event that an actual or suspected pipeline integrity problem is identified, and subsequent reseeding and reclamation would be undertaken.
<p><i>Abandonment Phase – Timeframe: At the end of the service life of the Project</i></p> <ul style="list-style-type: none">▪ An application pursuant to paragraph 74(1)(d) of the NEB Act would be required to abandon the facility, at which time the environmental effects would be assessed by the NEB under both the NEB Act and the CEA Act.

5.0 DESCRIPTION OF THE ENVIRONMENT

This section describes the environment and socio-economic setting along the proposed approximately 77 km route of the Pipeline. Known reference points along the route are commonly referred to as kilometre posts (KP) and are used to describe features along the proposed pipeline for construction, operation and maintenance purposes. KP 0.0 is located at the Gordondale Meter Station (LSD 2-12-79-12 W6M) in AB and approximately KP 77.1 is located at the new Groundbirch Receipt Meter Station (LSD 2-3-79-19 W6M) in BC.

Terrain and Soils

- The Project lies within the Municipal District of Saddle Hills and the Peace River Regional District. The land use along the proposed route is 31% cultivation, 21% hay, 17% pasture, 19% wooded, and 11% wooded pasture, with minor inclusions of 1% of wetland and muskeg.
- The proposed route traverses level to gently rolling terrain interrupted by incised valleys associated with the watercourse crossings. Slope instability occurs along the Pouce Coupe River valley. Areas of steep terrain occur on the approaches to named watercourse crossings (Pouce Coupe River, Kiskatinaw River, Sergeant Creek and Fox Creek) along the proposed route.
- The primary land use along the proposed route is agricultural production. Average topsoil depths are typically in the 10 to 25 centimetre range. Soils are non-saline and non-sodic, but portions of the lacstro-till deposits near Dawson Creek have low to moderate salinity levels in the lower subsoils.
- The proposed route does not encounter any contaminated sites listed on the 2009 Federal Contaminated Sites Inventory. There are no areas of known soil contamination along the proposed route; however, the likelihood of contamination is considered to be higher on or adjacent to previously-disturbed lands.

Vegetation

- Most of the private lands traversed by the Project have been broken or cleared for agricultural purposes while the Crown land segments are, for the most part, forested.
- During the plant surveys for the proposed Project, three rare plant species were observed in AB and five rare plant species were observed in BC. The surveys found no species listed on Schedule 1 of the *Species at Risk Act* (SARA), Committee on the Status of Endangered Wildlife in Canada (COSEWIC) listed species, or species designated under the *Alberta Wildlife Act* or the BC Identified Wildlife Management Strategy.
- No restricted weeds were observed. Noxious weeds found include creeping thistle, perennial sow-thistle, scentless chamomile and cleavers.
- The proposed Pipeline is located in a Mountain Pine Beetle Management Zone. In AB, the proposed route is in an inactive holding zone while the BC portion is in an Aggressive Emergency Bark Beetle Management Area. NGTL identified two bark beetle infestations in the vicinity of the proposed route during field surveys between KP 13.5 and KP 15 and in the vicinity of the Kiskatinaw River near KP 60.3.

Watercourses and Aquifers

- The proposed route is located within the Pouce Coupe River and Kiskatinaw River sub-basins and would cross 15 watercourses, including Sergeant Creek, Pouce Coupe River, McQueen Creek, the Kaskatinaw River and Fox Creek.
- The proposed route does not cross any designated Community Watersheds recognized by the AB and BC governments. The communities of Dawson Creek, Rolla and Pouce Coupe draw their domestic water supply from the Kiskatinaw River, approximately 4 km upstream of the proposed crossing. The source water quality in the Kiskatinaw River is naturally poor due to high turbidity and suspended sediment load.
- The proposed route traverses several sand and gravel aquifers of moderate productivity and low vulnerability as well as one bedrock aquifer of moderate productivity and moderate vulnerability.

Fish and Fish Habitat

- The watercourses to be crossed in AB are tributaries to Henderson Creek. All six watercourses are unmapped class D with no restricted activity period and low-value fish habitat.
- There are nine watercourses crossed by the proposed route in BC. Four of these are confirmed/defaulted fish-bearing. Fox Creek and Sergeant Creek are between 1.5 m and 5.0 m wide. The Kiskatinaw River and Pouce Coupe River are greater than 20 m wide. The remaining five watercourses were found to be non-fish-bearing streams of less than 1.5 m width.
- There are 10 species of sportfish and 17 species of non-sportfish that may occur in the Kiskatinaw River and Pouce Coupe River sub-basins. The fish community is a mixed assemblage containing both coldwater (e.g. salmonids) and coolwater (e.g. Northern pike) species. The sub-basins provide important habitat for several native coldwater sportfish species including bull trout, Arctic greyling, mountain whitefish and burbot. Northern pike and a variety of non-sportfish species such as suckers, cyprinids and sculpins can be found in their tributaries.
- No fish species listed federally under the SARA or the COSEWIC or provincially as a species of concern were found during field studies.
- Many of the smaller tributaries crossed by the proposed route may be frozen to the bottom or reduced to negligible flows during the winter.

Wetlands

- The proposed Pipeline would traverse approximately 1.26 km of wetland habitat, comprising approximately 1.6% of the total pipeline length. Four wetland classifications were identified along the proposed route: marshes, shallow open water, fen and bog.
- There are no Ramsar Wetlands of International Importance along the proposed Pipeline. Further, the proposed Project would not encounter any Important Bird Areas, Migratory Bird Sanctuaries or Ducks Unlimited projects associated with wetlands.

Wildlife and Wildlife Habitat

- In AB, the proposed route would traverse a combination of agricultural lands and stands of deciduous dominant forest containing small segments of mixed wood forest. In BC, the proposed route would traverse primarily agricultural lands interspersed with remnant stands of deciduous or coniferous forest.
- Three species of concern listed by the COSEWIC have potential to occur along the proposed route (i.e., known ranges overlap the Project area and suitable habitat occurs along the route): Canada warbler (Threatened), grizzly bear and short-eared owl (both listed as being of Special Concern). No evidence of Canada warbler or short-eared owl was found during field surveys. One set of grizzly bear tracks was observed near the tributary to Henderson Creek near KP 1.1.
- The Project lies within Key Moose Habitat in AB from KP 0.0 to KP 7.0, approximately 2.6 km of which is located on cultivated lands. There are no environmentally significant areas related to wildlife conservation or Ungulate Winter Ranges along the proposed route in Alberta. The highest levels of ungulate use were observed in forested areas. Evidence of moose, elk and white-tailed deer was observed intermittently throughout the remainder of the proposed route, often in association with watercourse crossings or remnant stands of forest in agricultural lands.
- The highest density and diversity of bird species were observed at watercourse crossings with well-developed riparian areas and in the stands of forest. Six provincially-listed bird species (Connecticut warbler, upland sandpiper, least flycatcher, common yellowthroat, eastern phoebe and pileated woodpecker) were observed along the proposed route and adjacent areas. The watercourses and small wetlands with open water adjacent to the proposed route provide habitat for waterfowl and shorebirds.

Wildlife Species at Risk (listed on Schedule 1 of the SARA)

- An adult western toad was observed along the proposed route in upland forested habitat near KP 60.5. The western toad is listed as a species of Special Concern and is dependent upon small, fishless ponds and lakes for breeding. No evidence of western toad breeding was observed during the June 2009 survey at suitable wetland and riparian habitats. The proposed route does not encounter or encroach upon known critical habitat for the western toad.
- Wooded wetland habitats and stands of black spruce forest/muskeg along and adjacent to the proposed route may provide suitable rusty blackbird habitat; however, no evidence of rusty blackbird presence was observed during the June 2009 survey.

Air Quality

- Air quality in nearly all of the Project area is characteristic of that expected in a rural-remote area that is not directly influenced by industrial emissions. A substantial portion of the proposed route would traverse agricultural land and at discrete locations is aligned adjacent to or across existing roads where air quality is a function of emissions and dust from vehicle traffic and cultivation.

Acoustic Environment

- Ambient noise in the Project area is primarily caused by vehicle and rail traffic.

Human Occupancy and Resource Use

- The Project does not traverse any federally owned or administered land and is made up of 59% Private and 41% Crown land in Alberta and 97% Private and 3% Crown land in BC.
- Outfitting, trapping and recreational activities are known to occur within the regional study area (RSA) along the proposed pipeline route. In AB, NGTL identified nine permit holder guide/outfitters, one Farm Development Lease holder and two registered trapping areas that would be traversed by the proposed route. In BC, there is one permit holder guide/outfitter, one Grazing Lease Holder and two registered trapping areas that would be traversed by the proposed route.
- The Project is located within the County of Saddle Hills in AB and within the Peace River Regional District in BC. Agriculture, oil and gas activities, tourism and forestry are the dominant industrial activities in these regions.
- Four watercourse crossings have been deemed navigable by TC's Navigable Waters Protection Program: Pouce Coupe River, Kiskatinaw River, Fox Creek and Sergeant Creek.
- The nearest Protected Area is the Rolla Canyon Ecological Reserve, approximately 9 km north of KP 18.4 and Kiskatinaw Provincial Park, approximately 17.5 km north of KP 58.4 in BC.
- NGTL, the Board and the Major Projects Management Office (MPMO) identified a total of 17 Aboriginal groups in AB and BC that may be potentially affected by the Project and were contacted. Two Aboriginal organizations, one in AB and one in BC, were also identified and contacted.

Traditional Land and Resource Use

- The proposed Project is located on privately-held and Crown lands within the Treaty No. 8 area. Traditional Land Use (TLU) studies were undertaken for all Crown lands crossed by the proposed route.
- A total of seven Aboriginal groups elected to directly participate in the TLU studies: Doig River First Nation; Duncan's First Nation (DFN); Kelly Lake First Nation; Kelly Lake Métis Settlement Society; McLeod Lake Indian Band; Northeast Métis Association; and Saulteau First Nation (SFN). One Aboriginal group, the Kelly Lake Cree Nation, completed its own TLU study for the Project. A number of TLU sites were identified within or adjacent to the Project Development Area (PDA), including plant harvesting sites, wildlife areas, hunting areas, a cabin site, wagon trail, bear and fox dens, and beaver dams and lodges. These include a fox den and an abandoned black bear den located within the proposed RoW.
- The Saddle Hills area was identified as an important area of active traditional use by DFN and Horse Lake First Nation (HLFN). Members of the Kelly Lake Métis Settlement Society and the Northeast Métis Association actively fish the Kiskatinaw River.

Heritage / Archaeological / Paleontological Resources

- A Historical Resources Impact Assessment in AB and an Archaeological Impact Assessment in BC were conducted along the entire proposed route. Within AB, no previously-recorded archaeological sites were recorded in the PDA, and no new historical resource sites were found. Within BC, no previously-recorded archaeological sites were recorded within 250 m of the PDA. One archaeological site in BC was observed in a cultivated field 130 m north of the proposed RoW. The Project would not traverse any previously-designated paleontological sites.

6.0 COMMENTS FROM THE PUBLIC

6.1 Project-Related Issues Raised through Consultation Conducted by the NEB

Several Project-related issues were raised by the public to the Board. Table 3 lists the issues raised. To view the documents, please refer to the NEB website (www.neb-one.gc.ca) at <https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=555680&objAction=browse&sort=name> and click on the exhibit numbers/filing IDs provided in the table below (you will be directed to these documents on the NEB's website). If computer access is not available, you may obtain copies through the Acting Secretary of the Board via the contact information in Section 10.0.

Table 3: Submissions to the NEB

Name	Topic(s) of Comments	Date of Submission	Exhibit Number / Filing ID
EC	<ul style="list-style-type: none">• Migratory Birds• Species at Risk• Wetlands	8 September 2009	E-2-1 (A1L2L6)
DFO	<ul style="list-style-type: none">• Vehicle crossings• Fish and fish habitat	10 August 2009	D-1-3 (A1K8Y3)
TC	<ul style="list-style-type: none">• Watercourse crossings• Aboriginal concerns	31 July 2009 9 October 2009	D-4-4 (A22408) D-4-5 (A23112)
DFN	<ul style="list-style-type: none">• Impacts to current traditional land use• Habitat fragmentation• Routing• Cumulative Effects	7 September 2009 17 November 2009	F-1-1 (A1L2K9) Transcript Vol. 1 paragraphs 853-998 (A23691)
HLFN	<ul style="list-style-type: none">• Impacts to current traditional land use• Routing	18 November 2009	Transcript Vol. 2 paragraphs 2724-2881 (A23712)
South Peace Landowners Association (SPLA)	<ul style="list-style-type: none">• Wood lot restoration• Site specific construction issues• Soil Management• Protection Against Soil Contamination• Water source protection• Wet soil shutdown• Disturbance damages• Future losses• Maintenance/repairs	21 July 2009	C-3-2 (A1K6K3)

DFN also raised a policy-related request of the Board regarding evidence to be expected of proponents regarding their collaboration with Aboriginal groups, as well as a request that the Board convene and host a session with provincial and federal government representatives, Aboriginal groups and project proponents regarding cumulative effects assessment and management. These policy-related requests, being broader in implication than this project-specific ESR, are addressed by the Board in its Reasons for Decision.

6.2 Project-Related Issues Raised through Consultation Conducted by NGTL

NGTL consulted or contacted a number of interested and potentially affected parties including the general public, the SPLA, Aboriginal groups and federal, provincial and local government agencies. Issues raised by these persons and groups contributed to the identification of potential adverse environmental effects and the development of mitigation measures. These effects have been categorized by environmental element and interested party. Information and concerns raised through the submissions have been incorporated within Section 8.0 of this ESR. Details on NGTL's public and Aboriginal consultation programs will be included in the Reasons for Decision.

6.3 Comments Received by the NEB on the Draft ESR

Following the release of the draft ESR, a number of comments were received from EC, TC, DFO, DFN and SFN. NGTL also provided comments, including responses to a number of the comments made. To view the submitted documents, please refer to the NEB website (www.neb-one.gc.ca) at <https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=555680&objAction=browse&sort=name> and select the folder 'Environmental Screening'. Appendix 1 provides a summary.

7.0 THE NEB'S EA METHODOLOGY

In assessing the environmental effects of the Project, the NEB used an issue-based approach. As described in Section 8.2, the NEB identified interactions expected to occur between the proposed Project activities and the surrounding environmental elements. Also included were the consideration of potential accidents and malfunctions that may occur due to the Project and any change to the Project that may be caused by the environment. If there were no expected element/Project interactions then no further examination was deemed necessary. Similarly, no further examination was deemed necessary for interactions that would result in positive or neutral potential effects. In circumstances where the potential effect was unknown, it was categorized as a potential adverse environmental effect.

Section 8.3 provides a summary of NGTL's standard design and practices to be relied on to mitigate the majority of potential adverse environmental effects.

Section 8.4 provides a more detailed analysis of potential adverse environmental effects selected based on public concern, the use of non-standard design or mitigation or the relative importance of the elements in question in the context of NGTL's application. The analysis specifies those mitigation measures, ratings for criteria used in evaluating significance (as defined in Table 4 below), monitoring and/or follow-up programs, and the corresponding views of the NEB along with any issue-specific recommendations.

Section 8.5 addresses cumulative effects, Section 8.6 addresses follow-up programs and Section 8.7 lists recommendations for any subsequent regulatory approval of the Project.

Table 4: Evaluation of Significance Criteria

Criteria	Rating	Definition
All criteria	Uncertain	When no other criteria rating descriptor is applicable due to either lack of information or inability to predict
Frequency	Single/rare	One time event within any phase of the Project lifecycle
	Multiple/Frequent	Multiple occurrences during any phase of the Project lifecycle
	Continuous	Continuous through any phase of the Project lifecycle
Duration	Short-term	Adverse environmental effect duration is in the order of months and/or limited to the proposed construction
	Medium-term	Adverse environmental effect duration is in the order of a few years
	Long-term	Adverse environmental effect would remain evident throughout the planned operation of the pipeline or beyond the lifecycle of the Project
Reversibility	Reversible	Adverse environmental effect expected to return to baseline conditions within the life of the Project
	Possible	Adverse environmental effect may or may not return to baseline conditions within the life of the Project
	Irreversible	Adverse environmental effect would be permanent, or reversible beyond the lifecycle of the Project
Geographic Extent	PDA	39 m construction RoW and temporary workspace footprints associated with constructing the Pipeline, access roads and associated facilities such as pump stations
	Local Study Area (LSA)	Includes the PDA as well as a 500 m buffer on either side of the RoW. In some cases, the PDA is also the LSA
	RSA	Varies with each discipline and can include natural sub regions, the home ranges of wildlife species or an airshed.
Magnitude	Low	Adverse environmental effect would have a negligible influence on physical (e.g. soils and terrain), biophysical (e.g. vegetation, wildlife, fisheries, air quality), or social elements (e.g. human health, traditional land use, heritage resources, ambient noise levels) Effect would impact quality of life for some, but individuals commonly adapt or become habituated, and the effect is widely accepted by society
	Moderate	Adverse environmental effect would have a local influence on physical, biophysical, or social elements Effect would impact quality of life but the effects is normally accepted by society
	High	Adverse environmental effect would have a regional influence on physical, biophysical, or social elements Effect would impact quality of life, result in lasting stress and is generally not accepted by society except under extenuating circumstance
Evaluation of Significance	Likely to be significant	Effects that are of high frequency, irreversible, long term duration, regional extent and of high magnitude
	Not likely to be significant	Any adverse effect that does not meet the above criteria for "Significant"

8.0 ENVIRONMENTAL EFFECTS ANALYSIS

8.1 Routing of the Pipeline

Route alternatives for the Pipeline were constrained by two primary control points, the end control point which ties into the existing TransCanada Alberta system (LSD 2-12-79-12 S6M) and the tie-in point for producers at the proposed Groundbirch Receipt Meter Station (LSD 2-3-79-19 W6M). The secondary control points were feasible water crossing locations for the Pouce coupe River, Kiskatinaw River, Sergeant Creek and Fox Creek. Preliminary route options were developed within the corridors that appeared viable. NGTL identified four alternative corridors, that shared a common central corridor for about 25.5 kilometres of the Project. The eastern portion of the corridor was split into two alternative corridors, the AB North and South Corridors, and the western portion of the corridor was split into the BC North and South Corridor.

NGTL assembled a multi-disciplinary project team that reviewed the preliminary route options within the identified corridors. The team considered the following routing criteria: location boundaries, terrain, land use, environmental impact, RoW corridors, crossings, historical resources, intermediate value sites, access, construction time frame, future system expansion, costs and external and internal stakeholder and Aboriginal participation.

The southern corridor option was proposed in both cases as the preferred corridor. The AB North Corridor was rejected by NGTL due to landowner and community opposition, resulting in its inability to access lands for route evaluation. It also rejected the BC North Corridor due to landowner concerns, additional length and less satisfactory watercourse crossing locations.

NGTL conducted biophysical assessment and associated fieldwork in an area extending, at a minimum, 50 m on either side of the centerline of the applied for general route of the pipeline. If the Project is approved, NGTL would be required to prepare and file the plan, profile and book of reference (PPBoR) in respect of a proposed detailed route of the pipeline. These filings require landowner and public notification as well as consideration and potential approval by the Board, with or without conditions.

In the event of a proposed detailed route alignment outside of the 100 m study area, for the purpose of further mitigation or avoidance of environmental impacts, the Board would require NGTL to provide sufficient information that, taken together with its detailed route approval and associated conditioning authority, would enable the Board to ensure that any environmental effects associated with the approved detailed route of the pipeline are insignificant. See recommendation B in section 8.7 for more details.

8.2 Project - Environment Interactions

Table 5 provides a description of the potential adverse environmental effects of the Project.

Table 5: Project Interaction

	Environmental Element	Project Interaction? Y/N/U	Description of Interaction (How, When, Where)	Type of Potential Effect P/Ntl/Adv	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented
Bio-Pms area	Physical Environment (Terrain Stability)	Y	<ul style="list-style-type: none"> Clearing, grading, excavation and backfilling along RoW 	Adv	<ul style="list-style-type: none"> Terrain instability 	Y
	<ul style="list-style-type: none"> Alterations of local topography 	Y				
	Soil and Soil Productivity	Y	<ul style="list-style-type: none"> Clearing, stripping, grading, excavation and backfilling along the RoW Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> Lowering of soil productivity on agricultural and forested land through topsoil/subsoil admixing, mixing with saline subsoil, compaction and rutting, surface wind and water erosion, trench subsidence 	Y Refer to section 8.4.1
			<ul style="list-style-type: none"> Spread of clubroot disease 		Y Refer to section 8.4.1	
			<ul style="list-style-type: none"> Soil contamination 		Y Refer to section 8.4.1	
	Vegetation	Y	<ul style="list-style-type: none"> Clearing, stripping, construction and operation activities along the RoW Use of construction equipment and vehicles Maintenance of the RoW during operations 	Adv	<ul style="list-style-type: none"> Loss or alteration of native vegetation, rare ecological communities and rare plants 	Y Refer to section 8.4.2
			<ul style="list-style-type: none"> Alteration of vegetation important to wildlife 		Y	
			<ul style="list-style-type: none"> Non-native or invasive weed introduction and spreading 		Y Refer to section 8.4.2	
			<ul style="list-style-type: none"> Spreading of mountain pine beetle/bark beetle 		Y	
			<ul style="list-style-type: none"> Removal of ornamental trees, windbreaks, shelterbelts 		Y Refer to section 8.4.2	
			<ul style="list-style-type: none"> Loss of salvageable timber 		Y	

	Environmental Element	Project Interaction? Y/N/U	Description of Interaction (How, When, Where)	Type of Potential Effect P/Nu/Adv	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented
					<ul style="list-style-type: none"> Loss of salvageable timber Loss of riparian habitat 	Y Y Refer to section 8.4.2
Water Quality and Quantity	Y	<ul style="list-style-type: none"> Clearing, stripping, grading, excavation and backfilling along the RoW Use of construction equipment and vehicles Hydrostatic test water withdrawal and discharge 	Adv	<ul style="list-style-type: none"> Alteration of natural drainage patterns Disruption of streamflow Reduction of surface water quality Reduction of groundwater quality Disruption of springs 	Y Y Y Y Refer to section 8.4.3 Y	
Fish and Fish Habitat	Y	<ul style="list-style-type: none"> Clearing, stripping, grading, excavation and backfilling along the RoW Use of construction equipment and vehicles Hydrostatic test water withdrawal and discharge Use of drilling mud during trenchless crossings 		<ul style="list-style-type: none"> Fish mortality and the disturbance or alteration of fish habitat, resulting from disturbance of riparian habitat Loss and alteration of instream habitat Increased suspended sediment concentrations in the water column Drilling mud release Increased access to fish and fish habitat Blockage of fish movements Interbasin transfer of aquatic organisms Contamination from spills Harmful alteration, disruption or destruction of fish habitat 	Y Y Y Y Y Y Y Y Y Y Refer to section 8.4.4	
Wetlands	Y	<ul style="list-style-type: none"> Clearing, grading, excavation and backfilling along the RoW Use of construction 		<ul style="list-style-type: none"> Alteration of wetlands (hydrologic and water quality functions) Contamination from spills 	Y Refer to section 8.4.5 Y	

	Environmental Element	Project Interaction? Y/N/U	Description of Interaction (How, When, Where)	Type of Potential Effect P/Ntl/Adv	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented
			equipment and vehicles			
	Wildlife and Wildlife Habitat	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling along the RoW ▪ Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> ▪ Loss or alteration of habitat ▪ Barriers to wildlife movement ▪ Changes to habitat connectivity ▪ Sensory disturbance during construction ▪ Wildlife mortality 	Y Refer to section 8.4.6
	Species at Risk (federally-listed on Schedule 1 of the SARA)	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling along the RoW ▪ Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> ▪ Western toad mortality or alteration of western toad habitat during construction ▪ Alteration of rusty blackbird habitat during construction 	Y Refer to section 8.4.7
	Air Quality	Y	<ul style="list-style-type: none"> ▪ Use of construction equipment and vehicles ▪ Burning of slash material ▪ Pipeline operation and maintenance activities 	Adv	<ul style="list-style-type: none"> ▪ Increase in greenhouse gas and air emissions ▪ Increase in fugitive dust and smoke during construction 	Y
Socio-Economic	Human Occupancy/Resource Use	Y	<ul style="list-style-type: none"> ▪ Increase in vehicular traffic ▪ Transport of workforce and materials to the Project site ▪ Site preparation (Clearing, grading, excavation and backfilling activities along the RoW) 	Adv	<ul style="list-style-type: none"> ▪ Loss or disruption to cattle operation as a result of soil, water and groundwater contamination (See Accidents/Malfunctions below) ▪ Disruption of outfitting, trapping, recreational activities ▪ Disruption of water well use 	Y

	Environmental Element	Project Interaction? Y/N/U	Description of Interaction (How, When, Where)	Type of Potential Effect P/Ntl/Adv	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented
			<ul style="list-style-type: none"> Construction of temporary and permanent roads and bridges Spill or leak during construction and operation Hydrostatic testing 		<ul style="list-style-type: none"> Interference with navigation of waterways and impact to navigation safety Increased access 	Y Y
	Heritage Resources	Y	<ul style="list-style-type: none"> Clearing and construction activities 	Adv	<ul style="list-style-type: none"> Disturbance or destruction of previously unknown heritage resources Disturbance or loss of identified heritage resources Disturbance of Paleontological resources 	Y Y Y
	Traditional Aboriginal Land and Resource Use	Y	<ul style="list-style-type: none"> Site preparation (Clearing, grading, excavation and backfilling activities along the RoW) Construction of temporary and permanent roads Operation and maintenance activities Construction of watercourse crossings using contingency methods 	Adv	<ul style="list-style-type: none"> Loss or alteration of Aboriginal traditional use sites (e.g., habitation sites, gathering sites, sacred sites) Disruption of, or inability to carry out traditional activities Interference with navigation of waterways and impact to navigation safety 	Y Refer to section 8.4.8 Y Refer to section 8.4.8 Y
	Socio and Cultural Well-being	Y	<ul style="list-style-type: none"> Increase in Vehicular traffic Increase in workforce and transient workers 	Adv	<ul style="list-style-type: none"> Increase and disruption of traffic movement Change in availability of commercial accommodation during construction Alteration of community life during construction 	Y Y Y
	Human Health/Aesthetics	Y	<ul style="list-style-type: none"> Noise and air emissions during construction Use of construction vehicles 	Adv	<ul style="list-style-type: none"> Increase in nuisance noise and air emissions during construction and operational phases 	Y

	Environmental Element	Project Interaction? Y/N/U	Description of Interaction (How, When, Where)	Type of Potential Effect P/Ntl/Adv	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented
			<ul style="list-style-type: none"> and equipment Pipeline maintenance activities 		<ul style="list-style-type: none"> Alteration of sense of safety and security Alteration of viewscape 	Y Y
Other	Accidents/Malfunctions	Y	<ul style="list-style-type: none"> Damage to foreign utility lines and pipelines Spill of hazardous materials during construction Pipeline rupture Fire Release of drilling mud during trenchless crossings Transportation accidents Third party line break 	Adv	<ul style="list-style-type: none"> Disruption of transmission lines and pipelines 	Y
					<ul style="list-style-type: none"> Contamination or alteration of <ul style="list-style-type: none"> Soil productivity Surface or groundwater quality Fish and fish habitat Wetland function Plants and ecological communities Agricultural activities Wildlife and wildlife habitat Livestock health Human health 	Y
Effects of the Environment on the Project	Y		<ul style="list-style-type: none"> Flooding Erosion Wildlife Climate change 	Adv	<ul style="list-style-type: none"> Loss of cover over the pipeline 	Y
					<ul style="list-style-type: none"> Disruption of construction activities 	Y
					<ul style="list-style-type: none"> Effects on scheduling or maintenance activities 	Y

Legend: Y – Yes; N – No; U – Uncertain; P – Positive; Ntl – Neutral; Adv – Adverse

8.3 Standard Mitigation

The potential adverse environmental and socio-economic effects to be mitigated through standard mitigation measures are presented in NGTL's ESA, Environmental Protection Plan (EPP), subsequent submissions and Environmental Alignment Sheets for the Project.

Several mitigation strategies have been proposed to avoid or minimize the effects of the Project including avoidance through route selection, scheduling of activities to avoid sensitive periods, developing mitigation measures to address site-specific and general issues, inspection during construction to ensure mitigation is implemented and effective, and inspection during maintenance activities during the operation of the pipeline system. These measures have provided the Board with a sufficient basis to assess the potential adverse environmental effects and meet the objective of mitigating potential adverse environmental effects.

A standard mitigative measure is a specification or practice that has been developed by industry, or prescribed by a government agency, that has been previously employed successfully, and meets the expectations of the NEB.

The Board recommends NGTL file an updated EPP and maintain a commitments tracking table to ensure all mitigative measures proposed in the application and supplementary filings as well as commitments made during the oral public hearing are adhered to. See recommendation C and D in section 8.7 for more detail.

TC is of the view that if NGTL adheres to all conditions and mitigation measures attached to approvals, permits and authorizations for this Project, potential adverse environmental effects are not likely to be significant. Any alternatives or alterations to crossing requirements specific in approvals, permits and authorizations must be reviewed and/or approved by the TC Navigable Waters Protection Program, prior to the commencement of crossing construction.

The NEB is of the view that, for this Project, if NGTL follows the above-mentioned standard design or mitigative measures, commitments made during the oral public hearing and adherence to the recommendations found in section 8.7 of the ESR, the potential adverse environmental effects are not likely to be significant.

8.4 Detailed Analysis of Potential Adverse Environmental Effects

A detailed analysis is provided in the tables below for each potential adverse environmental effect which is either of public concern, involves non-standard mitigation measures, monitoring programs or requires the implementation of an issue-specific recommendation.

The analysis specifies those mitigation measures, ratings for criteria used in evaluating significance, monitoring programs, views of the NEB and any issue-specific recommendations.

8.4.1 Soil and Soil Productivity

Issues	<ul style="list-style-type: none">Lowering of soil productivity on agricultural and forested landSpread of clubroot diseaseSoil contamination
---------------	---

Background/Issues	<p>NGTL's EA report indicates the Project has the potential to adversely affect soil and soil productivity through mixing of topsoil and subsoil, encountering saline lower subsoils and mixing with upper subsoil horizons, difficult revegetation due to wind and water erosion, erosion of topsoil, trench subsidence or crown, and reduced soil productivity from activities during operation and maintenance.</p> <p>The SPLA expressed concerns that appropriate construction methodology and restoration measures be implemented to minimize damage to virgin and vulnerable soils, that their lands would be protected against the importation of and contamination by disease, weeds and other contaminants. The SPLA indicated should NGTL intend to work in wet soil conditions, that project planning includes provision for all technically-feasible construction methods to minimize soil damage.</p>
Mitigation Measures	<p>NGTL committed to have Environmental Inspectors (EIs) with soils and soil issues experience on site during pipeline construction. In the event that EIs encounter conditions with which they are not confident to assess the situation, a Soils Resource Specialist would be consulted. These conditions may include water erosion, wind erosion, wet/thawed soils, stony subsoils and poor color separation.</p> <p>NGTL committed to the following contingency and management plans in order to protect the soils from mixing during salvage operations and contamination:</p> <ul style="list-style-type: none"> ▪ Soil Handling Contingency Plan; ▪ Soil Erosion Contingency Plan; ▪ Spill Contingency Plan; ▪ Wet/Thawed Soil Contingency Plan; ▪ Adverse Weather Contingency Plan; ▪ Construction Traffic Management Plan; and ▪ Clubroot Management Plan.
Monitoring	<p>During the first growing season after construction, soil sampling would be conducted, if warranted, at sites along the RoW identified in the initial post construction report as having issues and where reclamation problems are identified through landowner consultation, operation and maintenance reports, or aerial and ground reconnaissance. Observations and measurements to assess reclamation success would be collected and documented.</p> <p>The number of, and distance between, sample locations along the RoW would be determined by the Reclamation Soil Specialist conducting the sampling. It is anticipated that sampling would be more frequent in complex landscapes and less frequent in homogeneous landscapes. Criteria would include, but not be limited to, the following:</p> <ul style="list-style-type: none"> ▪ visual indications of potential issues; ▪ landscape variation; ▪ changes in construction procedures; ▪ changes in vegetation species composition; and ▪ changes in soil moisture. <p>Where issues are identified through this assessment, every effort would be made to implement mitigative measures as soon as is feasible. Issues that cannot be mitigated immediately would be documented in an Environmental Issues Tracking List for mitigation and follow-up monitoring as soon as conditions allow.</p>
Views of the NEB	<p>The Board is of the view that, with the mitigative measures and procedures outlined in NGTL's application and subsequent filings, along with NGTL's commitment to a post-construction monitoring program, soil contamination and loss of soil productivity can be effectively mitigated. The NEB recommends that, in any approval that may be granted, NGTL be required to confirm that a qualified soils specialist shall be on call during construction activities and that post-construction monitoring (PCM) reports be filed with the Board. See Recommendations G and M in Section 8.7 for more details.</p>

Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Single	Short-term to Medium-term	Reversible	PDA	Low
Adverse Effect					
Not likely to cause significant adverse environmental effects.					

8.4.2 Vegetation

Issues	<ul style="list-style-type: none"> Loss or alteration of native vegetation, rare ecological communities and rare plants Non-native or invasive weed introduction and spreading Removal of ornamental trees, windbreaks, shelterbelts Loss of riparian habitat
Background/Issues	<p>NGTL identified three rare plant species in AB and five rare plant species in BC along the proposed pipeline route.</p> <p>Noxious weeds found during both the 2008 and 2009 surveys included creeping thistle, perennial sow-thistle, scentless chamomile and cleavers.</p> <p>The SPLA expressed concerns about aesthetically and commercially viable trees being damaged or destroyed during construction.</p>
Mitigation Measures	<p>NGTL has committed to:</p> <ul style="list-style-type: none"> a Weed Management Plan. a Plant Species and Ecological Communities of Concern Discovery Contingency Plan. In the event of a discovery of rare vascular plant species or rare ecological communities on the proposed RoW, NGTL would implement one of more of the following mitigative measures: narrow down RoW, realign route or change work side, bore under local population, temporarily cover the site with geotextile pads or swamp mats, propagate rare plants or transplant individual plants to equivalent habitat. site-specific mitigation plans for rare plant communities found during field surveys. These would be incorporated in the EPP. Small trees and shrubs would be cut at ground level and the vegetative mat left intact whenever practical to limit disturbance to the low vegetation root systems and promote rapid shrub regeneration. re-establishing native vegetation along disturbed areas of the proposed RoW by seeding disturbed non-wetland areas with native species, planting live shrub cuttings salvaged from the RoW or adjacent areas, and planting native tree species where appropriate and in consultation with provincial regulators. NGTL would allow natural regeneration where no erosion potential exists. cleaning all construction equipment prior to its arrival on site and limiting the number of passes through weed-infested areas. NGTL would clean equipment involved in clearing or topsoil stripping handling activities in locations identified as having noxious weed infestations prior to moving to the next land parcel. Topsoil piles would be monitored for weed growth. saving ornamental trees, wind breaks or shelter belts to the extent practical, if requested by the landowner. fencing of riparian areas in consultation with DFO to exclude or minimize cattle/human traffic.
Monitoring	<p>A PCM program would be conducted to determine the status of unresolved environmental issues including seeding, revegetation and weed growth. NGTL committed to a five-year program and would continue to monitor any issues that remain outstanding following the completion of the five-year PCM program until they are resolved. Details of the</p>

	monitoring program have not yet been developed but would be based on the principle that success of land reclamation is measured against representative (i.e., adjacent) site conditions while taking into consideration the status of reclamation at the time of the assessment.																				
Views of the NEB	The Board is of the view that, taking into consideration NGTL's proposed Project-specific mitigation measures, as well as the Board's recommendation that NGTL carry out all environmental protection and mitigation measures outlined in its application and subsequent filings, the Project is not likely to result in significant adverse environmental effects to vegetation. In addition, the NEB recommends that, in any approval that may be granted, NGTL be required to file a detailed Weed Management Plan and PCM reports. See Recommendations L and M in Section 8.7 for more details.																				
Evaluation of Significance	<table> <thead> <tr> <th>Frequency</th> <th>Duration</th> <th>Reversibility</th> <th>Geographical Extent</th> <th>Magnitude</th> </tr> </thead> <tbody> <tr> <td>Single</td> <td>Short to Long-Term</td> <td>Reversible</td> <td>PDA</td> <td>Low to moderate</td> </tr> <tr> <td colspan="5">Adverse Effect</td> </tr> <tr> <td colspan="5">Not likely to cause significant adverse environmental effects.</td> </tr> </tbody> </table>	Frequency	Duration	Reversibility	Geographical Extent	Magnitude	Single	Short to Long-Term	Reversible	PDA	Low to moderate	Adverse Effect					Not likely to cause significant adverse environmental effects.				
Frequency	Duration	Reversibility	Geographical Extent	Magnitude																	
Single	Short to Long-Term	Reversible	PDA	Low to moderate																	
Adverse Effect																					
Not likely to cause significant adverse environmental effects.																					

8.4.3 Water and Water Quality

Issues	<ul style="list-style-type: none"> Reduction in groundwater quality 																				
Background/Issues	<p>The Project has the potential to reduce groundwater quality as a result of a drilling mud release and disruption of water well flow patterns.</p> <p>SPLA indicated concerns for the protection of groundwater sources for human and livestock consumption and for irrigation during construction and operation of the Pipeline.</p>																				
Mitigation Measures	<ul style="list-style-type: none"> NGTL commits to following spill prevention measures as well as: <ul style="list-style-type: none"> a Spill Contingency Plan; and an Instream Drilling Mud Release Contingency Plan. If aquifers are determined to be affected by construction activities, NGTL engineers would assess the Pipeline to ensure integrity in the vicinity of the aquifer to avoid or minimize impacts on the water quality and quantity of the aquifer. Should the water flows be disrupted, wells would be replaced and, if warranted, a supply of water would be provided to the owner until the replacement well is operational. 																				
Monitoring	NGTL would implement water quality monitoring plans to monitor for sediment events during in-stream construction activities at select watercourse crossings, including Pouce Coupe River and Kiskatinaw River, to avoid exceedance of federal and provincial guidelines for total suspended solids and as early warning signs to potential problems during construction. If monitoring reveals sediment values are approaching threshold values, NGTL's Environmental Monitors would alert the EI's and work with them to develop corrective actions.																				
Views of the NEB	The Board is of the view that, taking into consideration NGTL's proposed mitigation measures outlined in its application and EPP, the Project is not likely to result in significant adverse environmental effects on groundwater sources.																				
Evaluation of Significance	<table> <thead> <tr> <th>Frequency</th> <th>Duration</th> <th>Reversibility</th> <th>Geographical Extent</th> <th>Magnitude</th> </tr> </thead> <tbody> <tr> <td>Single</td> <td>Short-term</td> <td>Reversible</td> <td>LSA</td> <td>Low</td> </tr> <tr> <td colspan="5">Adverse Effect</td> </tr> <tr> <td colspan="5">Not likely to cause significant adverse environmental effects.</td> </tr> </tbody> </table>	Frequency	Duration	Reversibility	Geographical Extent	Magnitude	Single	Short-term	Reversible	LSA	Low	Adverse Effect					Not likely to cause significant adverse environmental effects.				
Frequency	Duration	Reversibility	Geographical Extent	Magnitude																	
Single	Short-term	Reversible	LSA	Low																	
Adverse Effect																					
Not likely to cause significant adverse environmental effects.																					

8.4.4 Fish and Fish Habitat

Issues	<ul style="list-style-type: none"> Harmful alteration, disruption or destruction (HADD) of fish habitat 																				
Background	<p>Fish and fish habitat sensitivity for all species are generally highest during spawning and emergence, and other times when fish concentrate in spatially restricted habitats. During the spawning and emergence period, fish require suitable habitat, and this is when eggs and fry are most likely to be affected by sedimentation.</p> <p>DFO determined that the Project has the potential to cause HADD of fish habitat as a result of the construction, operation or maintenance of the Pipeline.</p>																				
Mitigation Measures	<ul style="list-style-type: none"> NGTL is presently working on the Conceptual Fish Habitat Compensation Plan (CFHCP) in consultation with DFO staff for the contingency crossings associated with the Project. The CFHCP will form the basis for applications for any HADD authorizations under section 35 of the <i>Fisheries Act</i> that may become necessary for the Project. NGTL committed to follow DFO Operational Statement for HDDs and Best Management Practices at all other crossings, including DFO's Operational Statement for Dry Open-Cut Streamcrossings, and has outlined a Siltation to Watercourses Contingency Plan and a Flood and Excessive Flow Contingency Plan. NGTL committed to implement standard trenchless crossing measures where a trenchless crossing is planned, and to ensure inspection and contractor staff is familiar with the Directional Drilling Procedures and Instream Drilling Mud Release Contingency Plan prior to commencement of trenchless crossing construction. This will allow measures to be implemented quickly in the event of a drilling mud frac-out or crossing failure. 																				
Monitoring	<p>NGTL confirms that a water quality monitoring program would be implemented for the horizontal directional drill (HDD) and contingency crossings. If monitoring reveals sediment values are approaching threshold values, the Environmental Monitors would alert the EI/Construction Manager and work with them to develop corrective actions. If corrective actions are not successful, construction would be temporarily suspended until effective solutions are identified.</p> <p>NGTL will inspect approach slopes, banks and riparian zone regularly, especially following heavy rainfalls and spring freshet after construction as part of PCM. Monitoring would continue at specific locations if chronic erosion occurs, or if riparian vegetation recovery is delayed and would take remedial action to address soil erosion problems or delayed vegetation recovery, as warranted.</p>																				
Views of the NEB	<p>The Board notes that should an HDD crossing method fail and require implementation of contingency measures, NGTL would require approval by DFO and TC before implementing the contingency plan. The Board notes that NGTL has filed a CFHCP with DFO and that DFO and TC require submission of the final Fish Habitat Compensation Plan at least 14 days prior to the start of the HDD crossings.</p> <p>The Board notes that NGTL has committed to protect fish and fish habitat during the construction and operation of the Project.</p> <p>In order to ensure that the Board is notified of successful completion of HDD or any changes made to the proposed HDD watercourse crossing methods, it is recommended that, in any approval that may be granted, NGTL be required to do so in writing. See Condition K in Section 8.7 for more details.</p>																				
Evaluation of Significance	<table> <thead> <tr> <th>Frequency</th> <th>Duration</th> <th>Reversibility</th> <th>Geographical Extent</th> <th>Magnitude</th> </tr> </thead> <tbody> <tr> <td>Single</td> <td>Short to long-term</td> <td>Reversible</td> <td>LSA</td> <td>Low to moderate</td> </tr> <tr> <td colspan="5">Adverse Effect</td></tr> <tr> <td colspan="5">Not likely to cause significant adverse environmental effects.</td></tr> </tbody> </table>	Frequency	Duration	Reversibility	Geographical Extent	Magnitude	Single	Short to long-term	Reversible	LSA	Low to moderate	Adverse Effect					Not likely to cause significant adverse environmental effects.				
Frequency	Duration	Reversibility	Geographical Extent	Magnitude																	
Single	Short to long-term	Reversible	LSA	Low to moderate																	
Adverse Effect																					
Not likely to cause significant adverse environmental effects.																					

8.4.5 Wetlands

Issues	<ul style="list-style-type: none"> Alteration of wetlands (hydrologic and water quality functions) 										
Background	<p>Wetlands may be adversely affected during construction, operation and maintenance activities of the proposed Project. The Project has the potential to disrupt hydrologic function in wetlands. NGTL indicated that the most important considerations for limiting disturbances to hydrologic function is assuring that the restoration of preconstruction elevations and contours are achieved and that there are no unnatural impediments to flow.</p>										
Mitigation Measures	<p>NGTL has committed to:</p> <ul style="list-style-type: none"> schedule construction to avoid high-water levels, flagging wetland boundaries, and minimizing disturbance to vegetation and soils. use wide-track equipment or conventional equipment operated from swamp mats when working on saturated soils during non frozen ground conditions to avoid compaction. restrict access through wetlands to the extent practical by installation of a shoo-fly around wetland or construct a subsoil ramp if approved by appropriate regulatory authorities. remove all mats and ramps used to enable work and travel through wet areas and all bar ditch ramps from areas with mineral soils so that they do not impede the restoration of natural flow patterns. restrict grading adjacent to wetlands to the extent practical and avoid grading within buffer of undisturbed vegetation adjacent to wetlands. If grading within wetland buffer is necessary, NGTL would install temporary sediment barriers to prevent sediment from entering the wetland. NGTL would also direct grading away from wetland. allow for natural vegetation recovery except in areas of invasive weeds. 										
Monitoring	<p>NGTL would monitor wetland recovery during PCM.</p> <p>If the PCM program determines that wetland reclamation has not been effectively achieved, and there appears to be some loss of wetland habitat or function, then compensation would be considered in consultation with EC.</p>										
Views of the NEB	<p>Given NGTL's commitment to monitor wetland recovery during the PCM program and its commitment to consider wetland compensation in consultation with EC in the event that wetland reclamation has not been achieved, the Board is of the view that the potential loss of wetland habitat or function can be successfully mitigated. See Recommendation O for more details.</p>										
Evaluation of Significance	<table> <thead> <tr> <th>Frequency</th> <th>Duration</th> <th>Reversibility</th> <th>Geographical Extent</th> <th>Magnitude</th> </tr> </thead> <tbody> <tr> <td>Single</td> <td>Short to long-term</td> <td>Possible</td> <td>LSA</td> <td>Low</td> </tr> </tbody> </table> <p>Adverse Effect</p> <p>Not likely to cause significant adverse environmental effects.</p>	Frequency	Duration	Reversibility	Geographical Extent	Magnitude	Single	Short to long-term	Possible	LSA	Low
Frequency	Duration	Reversibility	Geographical Extent	Magnitude							
Single	Short to long-term	Possible	LSA	Low							

8.4.6 Wildlife and Wildlife Habitat

Issues	<ul style="list-style-type: none"> Loss or alteration of habitat Barriers to wildlife movement Changes to habitat connectivity
Background/Issues	<p>The Project lies within Key Moose Habitat in AB. New linear corridors create increased sightlines for predators such as wolves, which are known to travel along pipeline RoWs. NGTL cited studies which found that linear corridors are attractive to wolves as easy</p>

	<p>travel routes and may affect wolf-prey dynamics and result in more frequent kills. The highest levels of ungulate use along the proposed route were observed in forested areas and riparian areas during the field surveys.</p> <p>EC recommended that, where NGTL intends to initiate activities within the migratory bird nesting period and preclearing or premowing activities have not been completed prior to 1 May, the Company undertake a breeding bird nest survey on all segments of the site, irrespective of size, in areas where migratory birds may be nesting. EC indicated any nests found must be suitably buffered until the nests are abandoned.</p>										
Mitigation Measures	<ul style="list-style-type: none"> ▪ NGTL committed to avoid construction and clearing activities during the nesting season for migratory birds to the extent practical. In the event construction and/or clearing activities must occur within restricted activity periods for migratory birds, NGTL has committed to follow EC's recommendation and would undertake a pre-construction survey to ensure that no nests are destroyed or disturbed by construction activities. ▪ In order to minimize any increased predation due to the Project, NGTL committed to planting shrubs and/or trees at select locations to provide breaks in line-of-sight and to salvage and redistribute coarse woody debris to limit predator mobility along the RoW. ▪ NGTL commits to a Traffic Control Management Plan to ensure only essential vehicles and minimal equipment travel. ▪ NGTL commits to an Access Control Management Plan for previously-inaccessible portions of the RoW to minimize disturbance of pipeline construction on these lands, particularly in sensitive wildlife areas, riparian areas and in areas of potential high erosion hazard. 										
Views of the NEB	<p>The Board recognizes that there is potential for the Project to disturb birds protected by the Migratory Birds Convention Act and provincial legislation as well as other wildlife species.</p> <p>In order to verify appropriate protection of protected species and to confirm that sufficient consultation has taken place with the BC Ministry of Environment, Alberta Environment and EC regarding mitigation, the NEB recommends that, in any approval that may be granted, NGTL be required to file the methodology and results of the bird survey(s) described above, submit its PCM reports to Board and install barriers to limit the line-of-sight along the forested portion of the right-of-way to less than 1 km. See Recommendations A, M and N in Section 8.7 for more details.</p>										
Evaluation of Significance	<table border="0" data-bbox="425 1157 1269 1214"> <tr> <th data-bbox="425 1157 567 1214">Frequency</th> <th data-bbox="609 1157 722 1214">Duration</th> <th data-bbox="764 1157 906 1214">Reversibility</th> <th data-bbox="920 1157 1061 1214">Geographical Extent</th> <th data-bbox="1104 1157 1269 1214">Magnitude</th> </tr> </table> <table border="0" data-bbox="425 1220 1269 1277"> <tr> <td data-bbox="425 1220 524 1252">Single</td> <td data-bbox="552 1220 750 1252">Short to long -term</td> <td data-bbox="793 1220 878 1252">Possible</td> <td data-bbox="920 1220 1061 1252">LSA to RSA</td> <td data-bbox="1104 1220 1269 1252">Low to moderate</td> </tr> </table> <p data-bbox="425 1277 567 1299">Adverse Effect</p> <p data-bbox="425 1303 1005 1330">Not likely to cause significant adverse environmental effects.</p>	Frequency	Duration	Reversibility	Geographical Extent	Magnitude	Single	Short to long -term	Possible	LSA to RSA	Low to moderate
Frequency	Duration	Reversibility	Geographical Extent	Magnitude							
Single	Short to long -term	Possible	LSA to RSA	Low to moderate							

8.4.7 Species at Risk (listed on Schedule 1 of the SARA)

Issues	<ul style="list-style-type: none"> ▪ Western toad mortality and alteration of habitat ▪ Rusty blackbird mortality and alteration of habitat
Background	<p>There are two SARA Schedule 1-listed wildlife species with ranges and habitat occurring in the vicinity of the Project area: western toad and rusty blackbird (both of Special Concern).</p> <p>An adult western toad was observed along the proposed route, however, no evidence of western toad breeding was observed during the June 2009 survey at suitable wetland and riparian habitats. The western toad is dependent upon small, fishless ponds and lakes for breeding. Construction has been scheduled outside of its breeding season.</p>

	<p>The preferred habitat of rusty blackbirds is wooded wetlands, where they nest near open water. Only two open water wetlands with a treed overstory component occur along the proposed route, both of which are artificially created wetlands. These wetlands may provide marginally suitable rusty blackbird habitat, though the habitat quality is considered poor. NGTL found no evidence of rusty blackbird presence during a wildlife survey conducted in 2009.</p> <p>EC expressed uncertainties about the potential effects of the Project on species listed on Schedule 1 of the SARA and the identification of potential site specific mitigation measures to be taken to avoid or lessen those effects considering that surveys had not yet been completed. NGTL completed remaining surveys and provided an assessment of SARA Schedule 1 species and COSEWIC species.</p>										
Mitigation Measures	<p>NGTL has committed to:</p> <ul style="list-style-type: none"> ▪ a Wildlife Species of Concern Discovery Contingency Plan. ▪ schedule construction and clean-up activities outside of the western toad breeding season (April to May). ▪ Prior to late summer construction activity at locations where the PDA is adjacent to a wetland that has the potential to be used by western toads, the EI is to conduct a sweep of the PDA. If found, the EI would move the western toad(s) to nearby forested habitat. ▪ restore shrubby vegetation along wetlands and riparian areas during reclamation activities. ▪ leave large woody debris over select sections of the RoW, where approved by the appropriate authority (i.e., rollback for access management, if required, may also provide some suitable habitat features for western toad). 										
Views of the NEB	<p>The Board recognizes that there is potential for the Project to disturb SARA-listed species. However, given the absence of preferred habitat along the proposed route, the Board is of the view that the likelihood of disturbance is low.</p>										
Evaluation of Significance	<table border="0" data-bbox="326 981 1157 1076"> <tr> <th data-bbox="326 981 435 1011">Frequency</th> <th data-bbox="524 981 633 1011">Duration</th> <th data-bbox="723 981 850 1011">Reversibility</th> <th data-bbox="882 981 1010 1030">Geographical Extent</th> <th data-bbox="1042 981 1157 1011">Magnitude</th> </tr> <tr> <td data-bbox="326 1044 435 1076">Single</td> <td data-bbox="524 1044 690 1076">Short to medium-term</td> <td data-bbox="723 1044 850 1076">Possible</td> <td data-bbox="882 1044 977 1076">PDA</td> <td data-bbox="1042 1044 1157 1076">Moderate</td> </tr> </table> <p data-bbox="326 1082 478 1112">Adverse Effect</p> <p data-bbox="326 1119 907 1150">Not likely to cause significant adverse environmental effects.</p>	Frequency	Duration	Reversibility	Geographical Extent	Magnitude	Single	Short to medium-term	Possible	PDA	Moderate
Frequency	Duration	Reversibility	Geographical Extent	Magnitude							
Single	Short to medium-term	Possible	PDA	Moderate							

8.4.8 Traditional Aboriginal Land and Resource Use

Issues	<ul style="list-style-type: none"> ▪ Loss or alteration of Aboriginal traditional use sites ▪ Disruption to traditional activities
Background	<p>A total of 17 Aboriginal groups were identified by NGTL, the Board and the MPMO as being potentially affected by the Project.</p> <p>TLU studies were undertaken for all Crown lands crossed by the proposed route. The studies were conducted with the direct involvement of seven Aboriginal groups that expressed an interest in participating. One Aboriginal group, the Kelly Lake Cree Nation, completed its own TLU study for the Project. The studies covered those areas of their traditional territories transected by the proposed route along Crown lands. The remaining nine Aboriginal groups identified as being potentially affected by the Project either indicated no ongoing interest in the Project area and chose not to participate in NGTL's TLU studies, or did not notify NGTL of any interests or concerns relating to traditional land use relative to the Project.</p> <p>A number of TLU sites were identified within or adjacent to the PDA, including plant harvesting sites, wildlife areas, hunting areas, a cabin site, wagon trail, bear and fox dens, and beaver dams and lodges. A fox den and an abandoned black bear den were located</p>

	<p>within the proposed RoW. Due to construction constraints, the black bear den will be impacted by the Project.</p> <p>DFN raised concerns about the routing of the Project along Crown lands within their traditional territory, and expressed particular concern regarding potential impacts to traditional uses and interests in the Saddle Hills area. DFN expressed concerns that the Project would further fragment habitat in the Saddle Hills area, and would impact on current and on-going traditional uses of Crown lands, including hunting, gathering and use of plant resources, camping and general land access. Prior to filing the application, NGTL adjusted the Alberta section of the initially identified RoW, resulting in a reduction of proposed pipeline route through Crown land from a total of 15 km to 7.5 km. DFN acknowledged that the pre-application route adjustment reduced the total length of RoW along Crown lands in Alberta. However, DFN felt that further route adjustments to locate a greater length of RoW onto privately held lands north of the current proposed route and along Highway 49 was required to minimize potential impacts to their rights and current traditional activities on Crown lands within their traditional territory. DFN also requested that, if relocating the RoW could not be practically achieved, NGTL should be required to adopt a 'no net loss' contingency for mitigation planning, to reclaim and bring back to a suitable habitat condition equivalent areas of other abandoned corridors or areas in proximity to Sergeant and Cutbank Creeks. DFN also expressed concerns that the construction at Fox and Sergeant Creeks could interrupt their access to lands used for traditional purposes.</p> <p>HLFN did not participate in TLU studies for the Project and had confirmed to NGTL no concerns about Project effects on TLU. However, during the oral portion of the hearing, HLFN expressed concerns about impacts the Project may have on an area of special interest within their traditional territory. Specifically, HLFN members raised concerns about potential impacts of the Project on their current and on-going traditional uses of Crown lands in the Saddle Hills area, including impacts to hunting, camping, and the gathering and use of medicinal plants. HLFN suggested that re-routing the Alberta portion of the RoW to parallel Highway 49 or to follow an existing RoW near Bay Tree Alberta may reduce potential impacts to the current traditional use activities of HLFN in the Saddle Hills area.</p> <p>TLU fieldwork has been completed with the eight interested Aboriginal groups. Mitigation and wrap up meetings with interested Aboriginal groups to identify any additional TLU issues remain to be completed.</p> <p>The Kelly Lake Cree Nation and the McLeod Lake Indian Band requested that Aboriginal monitors from the communities be involved in construction phase monitoring within their traditional territories. The Kelly Lake Cree Nation also indicated it would like to discuss with NGTL and its consultants the proposed mitigation measures to protect identified bear dens from damage or destruction during construction.</p>
Mitigation Measures	<ul style="list-style-type: none"> ▪ NGTL has developed mitigation measures to avoid or reduce impacts to identified TLU sites within and adjacent to the PDA in collaboration with the participating Aboriginal communities. If the fox and black bear dens located within the RoW are determined to be active at the time of construction, NGTL has committed to determining any necessary additional mitigation in consultation with the BC Ministry of the Environment. ▪ NGTL has developed standard mitigation measures for potential TLU sites that may be encountered during construction. In the event previously unidentified TLU sites are encountered during construction, NGTL will implement its Contingency Plan for TLU Sites Identified during Construction. ▪ NGTL committed to consider further information provided by potentially affected Aboriginal groups regarding mitigation measures to address potential impacts on current traditional land uses and TLU sites, and to incorporate all mitigation measures relating to TLU into the Project EPP. ▪ NGTL committed to the use of monitors from interested Aboriginal groups, where

	<p>requested, to observe construction activities in areas of identified TLU sites.</p> <ul style="list-style-type: none"> • NGTL committed to provide DFN with details regarding time and duration of construction at Fox and Sergeant Creeks to ensure potential impacts to traditional activities will not occur. 																				
Views of the NEB	<p>The Board recognizes that there is potential for the Project to alter or disrupt traditional use sites and/or activities. The Board also acknowledges the concerns raised by DFN and HLFN regarding potential impacts to traditional uses and interests on Crown lands traversed by the proposed RoW.</p> <p>Should the Project be approved, the Board would expect NGTL, as per its commitments, to:</p> <ol style="list-style-type: none"> 1. complete its wrap-up and mitigation meetings with interested Aboriginal groups to finalize the TLU studies, where such meetings are requested by potentially affected groups; 2. consider further information provided by potentially affected Aboriginal groups regarding mitigation measures to address potential Project impacts on current traditional land uses and identified TLU sites; and 3. incorporate all mitigation measures relating to TLU into the Project EPP. <p>The Board therefore recommends that, in any approval that may be granted, NGTL be required to file with the Board a copy of the final TLU report for the Project, along with the Project EPP. See Recommendations C and H in Section 8.7 for more details.</p> <p>The Board is interested in consideration of potential detailed route alignment to further reduce adverse impacts on the traditional use of Crown lands by DFN and HLFN, including potential detailed route alignment between KP 12.3 and 15.2 that might avoid Crown lands. Should the Project be approved, the Board recommends that, with the filing of the PPBoR, NGTL be required to file an update on consultation undertaken with DFN and HLFN regarding detailed route alignment. The Board also recommends that with the filing of the PPBoR, NGTL provide the Board with a description of any detailed route alignment that extends beyond 50 m from the centerline of the applied for general route. See Recommendations B and J in Section 8.7 for more details.</p> <p>The Board is of the view that, with the mitigative measures and procedures outlined in NGTL's application and subsequent filings, NGTL's commitment to engaging monitors from Aboriginal communities, where requested, the Board's detailed route approval and conditioning authority, and the Board's recommendations, effects to lands and resources utilized for traditional purposes by Aboriginal groups can be effectively mitigated.</p>																				
Evaluation of Significance	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Duration</th> <th>Reversibility</th> <th>Geographical Extent</th> <th>Magnitude</th> </tr> </thead> <tbody> <tr> <td>Single to multiple</td> <td>Short to long-term</td> <td>Reversible to Irreversible</td> <td>PDA to RSA</td> <td>Low to moderate</td> </tr> <tr> <td colspan="5">Adverse Effect</td> </tr> <tr> <td colspan="5">Not likely to cause significant adverse environmental effects.</td> </tr> </tbody> </table>	Frequency	Duration	Reversibility	Geographical Extent	Magnitude	Single to multiple	Short to long-term	Reversible to Irreversible	PDA to RSA	Low to moderate	Adverse Effect					Not likely to cause significant adverse environmental effects.				
Frequency	Duration	Reversibility	Geographical Extent	Magnitude																	
Single to multiple	Short to long-term	Reversible to Irreversible	PDA to RSA	Low to moderate																	
Adverse Effect																					
Not likely to cause significant adverse environmental effects.																					

8.5 Cumulative Effects Assessment

The assessment of cumulative effects entails considering the impact of the residual effects associated with the Project in combination with the residual effects from other projects and activities that have been or will be carried out, within the appropriate temporal and spatial boundaries and ecological context.

A list of current and ongoing development activities and known proposed development activities was developed by NGTL to allow an assessment of cumulative effects of the Project in

combination with other Projects or activities that have been or are likely to be undertaken. Past activities contributing to environmental effects include agricultural activities, transportation activities (e.g., for the creation of roads and railways), forestry, oil and gas activities (e.g., pipeline and facility development), utilities (e.g., powerlines), and rural residential development within the LSA. Residual effects from the Westcoast Energy Incorporated South Peace Pipeline Project, the proposed Shell Canada Limited (formerly Duvernay Oil Corporation) Groundbirch Pipeline and the two proposed Trident Exploration Corporation wells within the LSA may have residual effects that could interact with the NGTL Groundbirch Pipeline Project.

NGTL identified potential cumulative residual effects associated with the following elements:

- physical elements such as slope stability, soils, air quality and acoustic environment;
- biological elements such as fish and fish habitat, wetlands, vegetation, wildlife and wildlife habitat, and species at risk;
- socio-economic elements such as human occupancy and resource use, heritage resources, TLU, social and cultural well-being, human health and infrastructure and services; and
- accidents and malfunctions.

NGTL stated that its proposed Project-specific environmental protection and mitigative measures are sufficient to address potential cumulative effects and that the cumulative residual environmental and socio-economic effects associated with the construction and operation of the Project are not unlike those routinely encountered during pipeline and associated facility construction in similar settings. However, as discussed in the following paragraphs, NGTL also proposed to undertake specific mitigative measures to address cumulative effects related to certain bio-physical and socio-economic elements.

Native Vegetation

Clearing the RoW would decrease the amount of vegetation available to wildlife, as well as decreasing forest cover. Within the LSA, approximately 69% of native vegetation has been cleared by previous activities. The additional clearing resulting from the Project and the other proposed activities would result in a decrease in native vegetation and would increase the area of disturbance in the LSA by approximately 0.5%. Disturbed areas through native vegetation segments would be seeded with an appropriate seed mix or allowed to naturally revegetate, while seeded pasture lands would be seeded with an agronomic seed mix. No locally or regionally adopted threshold or standard exists against which the incremental change in vegetation composition can be judged.

For any additional rare vascular plants and sensitive plant communities identified along the proposed route during the early and late summer 2009 supplemental studies, appropriate site-specific protection measures would be implemented. Mitigation was selected in order that the local population of rare vascular plant species and sensitive plant communities are not placed at risk for extirpation.

Wildlife

Construction and operation of the Project could affect wildlife and wildlife habitat in the LSA primarily through alteration of wildlife habitat, reduction in habitat quality, changes in wildlife movement patterns and increased mortality. NGTL described the effects as being reversible and of low magnitude.

As mentioned above, the Project would increase the area of disturbed land by approximately 0.5%. A study referenced by NGTL found that for most species, habitat fragmentation effects do not appear to occur when less than 10% of suitable regional habitat is lost. The risk of these effects increases at intermediate levels of habitat loss (10-40%) and cumulative effects risk increases dramatically when 70% to 90% of functional regional habitat was lost.

Changes to habitat connectivity within the forested area in AB would be minimized by reclaiming shrub and tree communities along select locations of the RoW (e.g., riparian areas, locations where line of sight barriers would be planted) and minimizing vegetation management along the RoW during operation to the extent practical.

Traditional Land Use

NGTL has committed to ongoing consultation with Aboriginal communities and, should additional TLU sites or impacts to traditional uses be identified, NGTL would implement the Contingency Plan for TLU Sites Discovered During Construction.

Views of the Board

The Board recognizes that there are projects or activities that have been or will be carried out in the vicinity of the Groundbirch Project including agriculture, transportation, utilities and oil and gas developments. Residual environmental effects of the Groundbirch Project may act cumulatively with the residual effects of such past and proposed projects and activities.

Generally, potential impacts associated with the Groundbirch Project can be readily mitigated by standard environmental protection measures common to pipeline projects. Residual environmental effects of the Project are expected to be of low to moderate magnitude. Potential cumulative environmental effects are considered most likely to arise in respect of impacts on native vegetation, wildlife and traditional land use. The Board also notes concerns raised by Aboriginal groups regarding such potential cumulative effects.

The Board acknowledges the design modifications made by NGTL to date through consultation with Aboriginal groups. The Board is of the view that the implementation of NGTL's proposed project-specific mitigation measures appropriately address the potential adverse effects of the Project in respect of native vegetation, wildlife and traditional land use. Further, the Board's recommendations H and I would require NGTL to continue to work with Aboriginal groups in an effort to further address their concerns and mitigate Project impacts.

DFN requested that the Board require NGTL to undertake, on a pilot basis, a more expansive cumulative effects assessment, including potential upstream and downstream impacts of the proposed Project, utilizing dynamic landscape simulation models. The Board is of the view that

the cumulative effects evidence before it is sufficient to permit the Board to assess the likely cumulative effects of the Project in combination with other projects or activities that have been or will be carried out and to make its determination of significance, as required by the CEA Act. Accordingly, the Board is not persuaded to recommend such information be required in the context of its assessment of environmental effects of this Project under the CEA Act.

Potential cumulative residual effects of the Project acting in combination with other projects or activities that have been or will be carried out are generally anticipated to be reversible in the short to long-term and are of low to moderate magnitude. Therefore, the Board is of the view that, with the implementation of NGTL's proposed mitigation and the recommendations outlined in section 8.7, the cumulative effects of the Project are not likely to be significant.

8.6 Follow-Up Program

The Project and its associated activities are generally routine in nature and the potential adverse environmental effects of the Project are expected to be similar to those of past projects of a similar nature in a similar environment. For these reasons, the NEB is of the view that a follow-up program pursuant to the CEA Act would not be necessary for this Project.

The Board understands that other RAs may rely on the NEB EA report to the extent possible but may produce an appendix to the EA report if necessary. Other RAs will provide their respective determinations and may conduct a follow-up program to ensure that mitigation measures related to their areas of responsibility identified through EA, and any conditions attached to licenses and approvals, are effectively implemented.

8.7 Recommendations

The following are recommended conditions that may form part of any regulatory decision on the proposed Project under the NEB Act.

In these conditions, the expression "commencement of construction" means the clearing of vegetation, ground-breaking and other forms of RoW preparation that may have an impact on the environment, but does not include activities associated with normal survey operations.

- A.** Where NGTL cannot avoid conducting activities within the migratory bird nesting period (between 1 May and 31 July) and preclearing or premowing activities have not been completed prior to 1 May, NGTL shall:
 - a)** retain a qualified avian biologist to carry out a bird survey to identify any breeding birds and their nests prior to the commencement of construction activities in the migratory bird nesting period;
 - b)** file for approval by the Board the methodology for the survey and confirmation that EC has reviewed and commented on the proposed methodology at least 45 days prior to commencement of such construction activities;
 - c)** file the results of the survey with the Board; and

d) file for approval by the Board, at least 14 days prior to the commencement of such construction activities, any mitigation strategies developed in consultation with EC and the appropriate provincial government bodies to protect any birds protected under federal or provincial legislation and their nests and a contingency plan for birds or nests found following completion of the survey referred to in a).

B. With the filing of the PPBoR for the Project pursuant to section 33 of the NEB Act, NGTL shall file a description of any proposed detailed route alignment that extends beyond 50 metres from the centerline of the applied for general route. Such description shall include:

- a) a map/environmental alignment sheet at an appropriate scale, clearly depicting the general route, and the proposed detailed route alignment;
- b) the results of public, landowner and aboriginal consultation, and the status of land acquisition (where appropriate);
- c) an environmental issues list identifying all relevant effects of the re-route on the environment (e.g., soils, vegetation, wildlife, hydrology and archaeological information); and
- d) the associated mitigation measures to render those environmental effects insignificant and, in the event that measures, other than those adduced during the GH-1-2009 proceeding, are proposed, an analysis supporting the use of such measures.

C. NGTL shall file with the Board for approval, at least 60 days prior to the commencement of construction, an updated Project-specific EPP. The EPP shall describe all environmental and socio-economic protection procedures, and mitigation and monitoring commitments, as set out in the application or as otherwise agreed to during questioning, in its related submissions or through consultations with other government agencies. The EPP shall describe the criteria for the implementation of all procedures and measures, and shall use clear and unambiguous language that confirms NGTL's intention to implement all of its commitments. Construction shall not commence until NGTL has received approval of its EPP from the Board. The EPP shall address, but is not limited to, the following elements:

- a) environmental procedures including site-specific plans, criteria for implementation of these procedures, mitigation measures and monitoring applicable to all Project phases, and activities;
- b) a reclamation plan which includes a description of the condition to which the applicant intends to reclaim and maintain the right-of-way once the construction has been completed, and a description of measurable goals for reclamation; and
- c) evidence of consultation with relevant regulatory authorities on the proposed mitigation and any outstanding concerns and plans to address these.

D. NGTL shall:

- a) file with the Board and post on its company website, at least 45 days before the planned start of construction, a table listing all commitments made by NGTL during the GH-1-2009 proceeding related to the Project, and all conditions imposed by the NEB and the deadlines associated with each;
- b) update the status of the commitments in a) at least on a monthly basis throughout the construction of the Project, and maintain the updated table on its company website; and
- c) update the status of commitments on an annual basis unless otherwise specified.

E. NGTL shall file with the Board, at least 30 days prior to the commencement of construction:

- a) copies of correspondence from the BC Archaeology Branch and from the Alberta Department of Culture and Community Spirit confirming that NGTL has obtained all archaeological and heritage resources permits and clearances; and
- b) a statement on how NGTL intends to implement any recommendations contained in a).

F. NGTL shall conduct all necessary pre-construction environmental surveys for temporary access roads and shall file with the Board for approval, at least 30 days prior to the commencement of construction:

- a) the methodology for conducting the surveys;
- b) the results of the surveys;
- c) a detailed mitigation plan for each species of concern and sensitive habitat affected by construction activities; and
- d) confirmation that the mitigation strategies shall be implemented on the Project.

G. NGTL shall file with the Board at least 14 days prior to the planned commencement of construction:

- a) confirmation that a qualified soils specialist shall be on call during construction activities; and
- b) the qualifications, role, responsibilities, decision-making authority and reporting structure for the soils specialist position.

H. NGTL shall file with the Board and participating Aboriginal groups, at least 60 days prior to the commencement of construction, a final TLU report for the Project. In addition to the report contents outlined in NGTL's Status Report on Traditional Land Use Study filed 12 November 2009, the report shall also include:

- a) a description of any additional TLU issues or concerns raised in NGTL's further discussions with participating Aboriginal groups, including NGTL's proposed wrap-up and mitigation meetings, where these have been feasible;
- b) a description of any additional mitigation measures identified through the discussions and meetings noted in a) above; and
- c) a summary of any outstanding TLU issues or concerns raised by potentially affected Aboriginal groups, including a description of how these concerns or issues have been or will be addressed by NGTL.

- I.** NGTL shall file with the Board, and provide a copy to DFN, 30 days prior to the commencement of construction on Crown lands, a report on its consultation activities with DFN regarding the selection and placement of proposed mitigation measures for wildlife on Crown lands.
- J.** With the filing of the PPBoR, NGTL shall submit to the Board, and provide copies to DFN and HLFN, an update on consultation activities undertaken with DFN and HLFN in respect of the potential for detailed route alignment that would further reduce impacts on the traditional use of Crown lands by DFN and HLFN.
- K.** NGTL shall file a final Fish Compensation Plan with DFO and TC, and provide a copy to the Board, at least 14 days prior to the start of the HDD crossings. NGTL shall:
 - a) notify the Board upon successful completion of the HDD or bored watercourse crossings of the Pouce Coupe and Kiskatinaw Rivers; or
 - b) notify the Board in writing of any change from the proposed HDD watercourse crossing methods and the reasons for that change prior to implementation; and
 - c) file copies of all correspondence from regulatory authorities related to the changed crossing method.
- L.** NGTL shall file with the Board for approval, at least 60 days prior to commencement of operation, a detailed weed management plan. This is to describe NGTL's long term weed monitoring and control procedure, decision criteria and accountabilities for the operations phase of the facilities as well as for the immediate post-construction reclamation period.
- M.** On or before 31 January after each of the first, third, and fifth complete growing seasons following the commencement of operation of the Project, NGTL shall file with the Board a post-construction environmental monitoring report that:
 - a) describes the methodology used for monitoring, the criteria established for evaluating success and the results found;
 - b) assesses the effectiveness of the mitigation measures applied during construction against the criteria for success;
 - c) identifies any deviations from plans and alternate mitigation applied as approved by the Board;

- d) identifies locations on a map or diagram where corrective action was taken during construction and the current status of corrective actions; and
- e) provides proposed measures and the schedule NGTL shall implement to address any unresolved concerns.

N. NGTL, in the first growing season after construction, shall:

- a) ensure that measures are installed so as to limit the line-of-sight along the forested portions of the right-of-way to less than 1 km;
- b) file with the Board copies of all correspondence demonstrating consultation with Alberta Sustainable Resource Development in the design, composition, and location of each visual barrier; and
- c) maintain monitoring reports detailing the status of the line-of-site barriers and identifying any deviations from plans and alternate mitigation applied as approved by the Board, for auditing purposes, for the service life of the Project.

O. NGTL shall consult with EC on all wetlands where wetland function has not been fully restored at the close of the five-year PCM program, and undertake further restoration or compensation, as recommended by EC or provide a rationale for why NGTL will not abide by EC's recommendation. NGTL shall file with the Board copies of all correspondence demonstrating consultation with EC on any potential wetland compensation as part of the five-year PCM report.

9.0 THE NEB'S CONCLUSION

Pursuant to the CEA Act, the NEB has determined that, if the Project is approved and, taking into account the implementation of NGTL's proposed environmental protection procedures and mitigation measures, compliance with the Board's regulatory requirements and the recommended conditions included in this ESR, the construction and operation of the Project is not likely to cause significant adverse environmental effects.

This ESR was approved by the NEB on the date specified on the cover page of this report under the heading CEA Act Determination Date.

10.0 NEB CONTACT

Anne-Marie Erickson
Acting Secretary of the Board
National Energy Board
444 Seventh Avenue S.W.
Calgary, Alberta T2P 0X8
Telephone: 1-800-899-1265
Facsimile: 1-877-288-8803
secretary@neb-one.gc.ca

APPENDIX I COMMENTS ON THE DRAFT ESR

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
EC	EC recommended timelines be associated with the wetland PCM. EC recommends that compensation be considered after two years and be a requirement after five years.	Section 8.4.5 and Section 8.7	NGTL believes it should be provided with sufficient opportunity to apply remedial measures with the focus of restoring wetland function directly to the affected wetlands, rather than declaring that a net-loss of wetland function has resulted and then being required to provide compensation payment to be used for the restoration/establishment of off-site wetlands. NGTL believes a period of five years of remediation efforts should be allowed before shifting the focus to compensation and the restoration of off-site wetlands.	
DFN	DFN stated that it is not satisfied with NGTL's mitigation measures for TLU sites, and requested that further mitigation measures to address impacts on traditional use sites be set out.	n/a	NGTL indicated that it intends to continue engagement with all participating Aboriginal communities, but that consultation in respect of potential effects and appropriate mitigation has been completed. NGTL's view is that successful implementation of proposed mitigation measures will address concerns related to traditional use of Crown land by DFN.	<p>Section 5.0 addresses traditional land and resource use, and Section 8.4.8 discusses potential Project effects on such uses.</p> <p>The Board notes that a TLU study was undertaken as part of the application for the Project, and that DFN participated directly in the study. The Board also notes the 32 specific TLU sites identified by DFN members, and the specific mitigation measures proposed by NGTL to reduce or eliminate potential Project impacts to identified TLU sites.</p> <p>The Board further notes NGTL's commitments pertaining to TLU, including: 1) to implement its Contingency Plan for TLU sites identified during construction; 2) to consider further information provided by potentially affected Aboriginal groups to address potential impacts on current traditional land uses and TLU sites; 3) to incorporate all mitigation measures relating to TLU into the Project EPP; and,</p>

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
				<p>4) NGTL's commitment to the use of monitors from interested Aboriginal groups, where requested, to observe construction activities in areas of identified TLU sites.</p> <p>The Board finally notes that, should the Project be approved, it would require NGTL to advise the Board of any additional or outstanding issues or concerns of any potentially affected Aboriginal group 60 days prior to construction, as stated in Recommendation H.</p> <p>The Board is of the view that, taking into consideration NGTL's proposed project-specific mitigation measures pertaining to TLU sites, NGTL's commitment to engaging monitors where requested, NGTL's commitment to carry out all environmental protection and mitigation measures outlined in its application and subsequent submissions and Recommendation H, the Project is not likely to result in significant adverse effects to identified Aboriginal traditional land and resource use sites.</p>
	<p>DFN expressed concerns about potential interruption to traditional activities, and requested further mitigation measures to address disruption of traditional activities.</p>	n/a	<p>With respect to DFN's comments regarding potential disruption to traditional uses, NGTL's view is that successful implementation of proposed mitigation measures will address concerns related to traditional use of Crown land by DFN.</p> <p>NGTL also stated it has re-evaluated the route alignment along Crown lands between KP 12.3 and 15.2 and remains of the view that the proposed route is appropriate.</p>	<p>Section 5.0 addresses traditional land and resource use, and Section 8.4.8 discusses potential Project effects on such uses. The Board notes that a TLU study was undertaken as part of the application for the Project, and that DFN participated directly in the study. The Board further notes NGTL's commitments to implement its Contingency Plan for TLU sites identified during construction, to consider further information provided by potentially affected Aboriginal groups to address potential impacts on current traditional land uses and TLU sites, and to incorporate all mitigation measures relating to TLU into the Project EPP. The Board finally notes NGTL's commitment to the use of monitors from interested Aboriginal groups, where requested, to</p>

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
				<p>observe construction activities in areas of identified TLU sites.</p> <p>The Board is of the view that, taking into consideration NGTL's proposed mitigation measures pertaining to TLU, NGTL's commitment to engaging monitors where requested, NGTL's commitment to carry out all environmental protection and mitigation measures outlined in its application and subsequent submissions, and the Board's recommendations, effects to lands and resources utilized for traditional purposes by Aboriginal groups will be mitigated to the extent possible along the general route of the Project. The Board's assessment of the proposed detailed route alignment would follow NGTL's filing of the PPBoR pursuant to section 33 of the NEB Act.</p>
	DFN is not satisfied with NGTL's mitigation measures for further loss of moose habitat.	n/a	<p>In keeping with its Aboriginal engagement practices, NGTL intends to maintain communication and engagement with all Aboriginal communities that participated in the project planning phase and application phase of the project. NGTL states that while consultation in respect of potential effects and appropriate mitigation has been completed, there will be ongoing consultation to ensure effective implementation of proposed mitigation strategies.</p>	<p>Section 5.0 addresses wildlife and wildlife habitat, and Section 8.4.6 discusses potential Project effects on wildlife.</p> <p>The Board notes NGTL's view that although temporary reductions in forage availability are expected within the PDA, increased forage availability is expected once the vegetation communities begin to regenerate to early seral vegetation. Further, the creation of a small portion of young seral habitat, in most cases, is not expected to influence most wildlife populations, and may result in habitat enhancement effects for some species.</p> <p>The Board also notes NGTL's recognition that while linear developments may create changes in movement patterns in some species, results of winter wildlife surveys conducted along a proposed pipeline right-of-way in forested montane habitat did not suggest ungulates avoid the existing disturbances. The authors interpreted reductions in security cover to balance out increases in available browse and grazing vegetation cover for ungulates on the RoW.</p>

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
				<p>The Board is of the view that NGTL's proposed mitigation measures, including a reduced RoW width, planting trees and shrubs in select locations, distributing coarse wood debris to reduce predator mobility, limiting vegetation control along the proposed RoW during operation to the extent practical and retaining undisturbed riparian areas along watercourses crossed using a HDD method, are sufficient to minimize changes to wildlife movement patterns.</p> <p>Should the Project be approved, the Board recommends that NGTL be required to consult with DFN on the selection and placement of proposed mitigation measures for wildlife on Crown lands, and to report on its consultation efforts and the resulting selection and placement of mitigation measures as part of the EPP for the Project. See Recommendation I for more details.</p>
	DFN is concerned with the cumulative effects assessment and the NEB's determination of significance findings.	n/a	The cumulative effects assessment carried out for the Project has met the requirements of the CEA Act and is the standard appropriate for the scale of the Groundbirch Project.	The Board is of the view that the cumulative effects assessment submitted by NGTL is sufficient to enable the Board to reach its determination of significance in respect of this Project under the CEA Act, and is adequate in relation to the scope and setting of the Project.
TC	TC advised changes to TC's CEAA triggers	Section 2.1, Table 1		
	TC recommended including major watercourse crossings within the Construction Phase of Table 2.	Section 4.0, Table 2		
	TC recommended including navigable waters in the Section 5.0 Human Occupancy and Resource Use.	Section 5.0		
	TC proposed additions to section 8.2 – Project Environment Interactions.	Section 8.2		

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
	TC requested wording for the standard mitigation section.	Section 8.3		
	TC suggested including TC in the review and approval of contingency measures should an HDD method fail.	Section 8.4.4		
	TC recommended noting NGTL's commitment to provide DFN with details regarding time and duration of construction at Fox and Sergeant Creeks to ensure potential impacts to traditional activities will not occur.	Section 8.4.8		
DFO	DFO suggested changes to fish presence stated in Section 5.0.	Section 5.0		
	DFO recommended more consideration of contingency crossing methods.	Section 8.2		
	DFO requested fish habitat mitigation measures to include a requirement for NGTL to fence riparian areas, to be identified in consultation with DFO.	Section 8.4.2		
	DFO suggested changes to NGTL's use of Operational Statements.	Section 8.4.4		
	DFO recommended changes to Condition J requiring submission of the final Fish Habitat Compensation Plan.	Section 8.4.4 and Section 8.7		
	Saulteau First Nations stated that there was inadequate consultation and notification with respect to the Project by the NEB and Canada.	n/a		As part of its Enhanced Aboriginal Engagement (EAE) process, the NEB contacted SFN by letter on 28 December 2008 to inform SFN of preliminary information relating to the proposed Groundbirch Project, and to offer to provide SFN with information about the Board's process and how to participate in the Board's hearing. Board staff followed up on this letter to confirm receipt and to determine SFN's interest in a meeting with Board staff.

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
				<p>On 16 March 2009, Board staff met with SFN Chief Harley Davis and members of SFN Council and staff to provide a general overview of the Groundbirch Project and further information on the NEB hearing process, including the ways in which SFN may participate in the Board's hearing.</p> <p>The MPMO contacted SFN by letter dated 24 September 2009, outlining how the Crown's duty to consult Aboriginal groups will be exercised for the Groundbirch Project. The letter provided information on how SFN could view the electronic version of the Hearing Order for the GH-1-2009 proceeding, and contact information for the Board should SFN have any questions relating to process. The Board notes that SFN was also provided a printed copy of the Board's Hearing Order by NGTL.</p> <p>The Board encourages Aboriginal groups with an interest in a project to make their views known directly to the Board by participating in the Board's hearing process. The Board's EAE process is intended to ensure that potentially affected Aboriginal groups have been provided with sufficient information to allow them to participate directly in the Board's hearing, and to ensure the Board has sufficient evidence on the potential impacts a project may have on Aboriginal groups. The Board is satisfied that SFN had access to the information that they needed to enable them to participate in this hearing, and to make any concerns known to the Board.</p>

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
	SFN expressed concern regarding the potential impact of the Project on lands which may be subject to selection under a treaty land entitlement (TLE) arrangement.	n/a		The Board considers that it would be unreasonable to delay its consideration of the Project pending the further advancement of TLE arrangements between BC, Canada and SFN. The Board also notes the minimal amount of land required for the Project and that the Project is not likely to limit lands available for selection through TLE agreements.
	SFN stated that there was inadequate consultation and notification by NGTL with respect to the Project.	n/a	NGTL stated that it initiated consultation on the Project with SFN in August 2008. NGTL also filed evidence on its consultation activities with SFN as part of its application and subsequent submissions, and in response to comments on the draft ESR by SFN. Activities and contacts with SFN were noted by NGTL between 20 August 2008 and 28 January 2010.	The Board is of the view that all potentially affected Aboriginal groups identified for the Project, including SFN, were provided with sufficient details about the Project, and were given the opportunity to make their views known to NGTL and the Board in a timely manner so they could be factored into the decision making process. The Board notes NGTL's commitment to ongoing Aboriginal consultation and engagement throughout the life of the Project.
	SFN stated that there was inadequate notice and dialogue prior to determining the scope of the EA.	n/a	NGTL noted that the Board contacted all identified Aboriginal groups, including SFN, regarding NGTL's Project Description for the Groundbirch Project in December 2008. NGTL also noted the Board issued its Hearing Order for the GH-1-2009 proceeding on 16 June 2009, and that the Order included as Appendix V the initial scope for the environmental assessment. The process for providing comments on the environmental assessment was set out in section 10 of the Order. The Board's process allowed opportunities for parties, including Government and Aboriginal groups.	The Board notes that the Scope of the Environmental Assessment contained in the GH-1-2009 Hearing Order states that factors to be considered include the environmental effects of the Project, any cumulative environmental effects that are likely to result from the Project in combination with other projects, and the effects of the Project on the current use of lands and resources for traditional purposes by Aboriginal persons. The Board notes that SFN was served with a copy of the GH-1-2009 Hearing Order, that comments on the Scope of the Environmental Assessment were solicited, and that no comments were received by the Board from SFN. The Board also notes that its revised list of issues for the proceeding issued on 22 July 2009 included "potential impacts of the Project on Aboriginal interests".

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
			to provide comments and ask questions related to the environmental assessment of the Project. In addition, the MPMO sent to SFN a letter on 24 September 2009 outlining how the Crown's duty to consult Aboriginal groups would be exercised for the Project.	The Board is of the view that all potentially affected Aboriginal groups identified for the Project, including SFN, were provided with sufficient details about the Project, and were given the opportunity to make their views known to NGTL and the Board in a timely manner so they could be factored into the decision making process.
	In response to Section 5.0, SFN stated that it is false and incorrect to indicate SFN directly participated in NGTL's TLU study for the Project.	n/a	NGTL stated that it and TERA Environmental Consultants (TERA) met with SFN numerous times between March and September 2009 to discuss how TLU studies for the Project would occur. NGTL noted that field studies were completed along the proposed pipeline route during summer and fall 2009, and included TLU studies. NGTL stated that SFN hosted an Elders workshop on 22 September 2009 at which time TERA and NGTL provided a Project update and facilitated a discussion on traditional land use of the project area. On 23 September 2009 TERA and SFN held a site visit with SFN Elders. NGTL noted that TERA contacted SFN on 5 October 2009 to schedule a review of the TLU report, but stated that SFN indicated it could not review the report prior to the oral portion of the hearing on 17 November 17 2009. A status report on traditional land use which noted the TLU sites of interest identified by SFN was submitted to the Board on 12 November 2009.	The Board is satisfied that SFN was provided an opportunity to participate in NGTL's TLU study for the Project. The Board notes that SFN provided information regarding TLU as part of the study. The Board is also satisfied that SFN had access to the information that they needed to enable them to participate in the Board's hearing, and to make any concerns regarding TLU known to the Board. If the Project is approved, it is recommended that, pursuant to Recommendation H, NGTL would be required to file with the Board and participating Aboriginal groups a copy of the final TLU report for the Project. If any additional concerns are raised, Recommendation H would require NGTL to include in the final TLU report a description of any additional TLU issues or concerns raised, the measures NGTL has already or will undertake to address such concerns, and any outstanding issues. The Board is of the view that, with the mitigation measures and procedures outlined in NGTL's application and subsequent filings, NGTL's commitments made in its submissions and during the hearing, and the Board's recommendations, effects to lands and resources utilized for traditional purposes by Aboriginal groups will be mitigated to the extent possible.

Agencies and Interested Groups	Comments	Section in ESR where wording was modified	NGTL response	Explanation on why change was not made to the ESR
NGTL	NGTL recommended clarification of the wording in Section 8.4.8. to remove reference to moose licks in the description of TLU sites identified within and adjacent to the Project footprint.	Section 8.4.8		
	In response to Section 5.0 – Description of the Environment, Traditional Land and Resource Use. NGTL noted that mitigation meetings have taken place with all Aboriginal groups that requested such meetings. NGTL also noted that a meeting with DFN to discuss implementation of mitigation measures has been agreed to, but not scheduled. NGTL further noted that SFN has not yet determined whether a mitigation meeting will be required by the community.	Section 5.0 Section 8.4.8		
	In response to Section 5.0 – Description of the Environment. Heritage/Archaeological/Paleontological Resources. NGTL noted that impact assessments were conducted along the entire route in BC and Alberta.	Section 5.0		
	In response to Section 8.4.4, NGTL disagreed with the statement that should an HDD crossing fail and require contingency measures, NGTL would have to apply to DFO to review the plan at that time. NGTL stated that plans have already been included in its application to DFO so that should an HDD fail, the contingency method would already have been reviewed and approved by DFO.	Section 8.4.4		
	In response to Section 8.4.7, NGTL requested the background read "[t]here are two SARA Schedule 1 – listed wildlife species with ranges and habitat occurring in the vicinity of the Project area..."	Section 8.4.7		

Appendix VI

Guidance for Exemption Application

With respect to any portions of the Pipeline for which exemption from hydrostatic testing is to be sought, application for exemption from Clause 8 of CSA Z662-07 and paragraph 4(1)(d) of OPR-99, shall be made pursuant to subsection 48(2.1) of the NEB Act and filed with the Board no more than 30 days following the issuance of a Certificate for the Project. Application for exemption shall include the following:

- a) A proposal for independent third party auditing of the implementation of the QMS, AIV, and associated processes on the Project and their effectiveness in demonstrating equivalency to hydrostatic testing. The proposal shall include:
 - i. The names of a minimum of three independent third parties proposed to perform the audit function;
 - ii. A proposed Statement of Work for the third party auditing; and
 - iii. The criteria by which “independence” of the third parties has been established.
- b) Criteria proposed to be used to select significant representative sections of the Class 1 pipeline for hydrostatic test, for the purpose of validation of the AIV process and its implementation. The selection criteria should be developed to demonstrate that the selected test sections are representative of the general nature of the project.
- c) A hydrostatic testing program for Class 1 pipeline segments to be hydrostatically tested which fulfils the requirements of OPR-99 and CSA Z662-07.
- d) The version of the QMS program and AIV process that will be used during the Groundbirch project.
- e) Dates and locations for qualification testing of welding and non-destructive examination, steel making and pipe rolling, and coating; or if these dates occur prior to submission of the exemption request, the documentation required by the AIV process, Section 7.1 Process Control, Subsection (vi) Documentation.
- f) A proposed schedule of significant project milestones.
- g) A project-specific leak detection plan which includes, at a minimum, the following:
 - i. The proposed leak detection method and performance indicators;
 - ii. Safety precautions for the public and construction personnel which will be implemented during the test;

- iii. Consideration of project weather and environmental conditions, including description of and mitigation for any factors which may cause inaccurate or inconclusive results (e.g. weather, topography, soil conditions, presence of water, nearby unrelated gas emissions, etc.); and
- iv. Description of information to be filed regarding the results of leak detection testing, including the weather and environmental conditions encountered.

